ABSTRACT

FOREIGN DIRECT INVESTMENT IN AMERICA’S AUTOMOTIVE INDUSTRY

By Jared MacCleary

This paper investigates the factors that lead a foreign automaker to invest in a particular state. It examines variables that gauge a state’s manufacturing development, labor union activity, and economic environment. The analysis is done in two parts. First, a classification tree analysis is conducted on data representing greenfield auto assembly investments. It includes observations of states that did receive investment and states that did not receive investment in order to identify the principal differences. The second analysis is a case study of Honda in Ohio. The key factors that attracted Honda to Ohio are identified and described. This paper concludes that the attribution to Southern states’ low union activity rate as one of the most important reasons for attracting investment is overstated. Furthermore, the industrial development and the presence of American automakers, what many have described as a weakness in Midwestern states, may actually become an attractive feature in the near future.
FOREIGN DIRECT INVESTMENT
IN
AMERICA’S AUTOMOTIVE INDUSTRY

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CHAPTER ONE

Introduction

In 1986 the movie “Gung Ho” appeared in theaters. It depicted the story of a small rural town turned upside down by the arrival of a Japanese automaker. The town of Hadleyville had been struggling economically. Its decline had been long in the making and the town became moribund when its auto assembly plant and underwear factory shut down. Businesses were closing. People were moving away. The only person in the town doing well was the guy “who rents U-hauls.” When the foreign automaker began operation, however, hope for the future returned for the inhabitants of that rural town.

The movie might as well have been a documentary on Honda in Ohio: reality obviously inspired many parts of the movie. Four years previous, Honda began the first Japanese owned car assembly plant in America, not in Hadleyville, but in Marysville. It wasn’t an underwear factory that recently closed it doors, but a truck-axle plant. The new employees of the auto plant did not wear all blue uniforms, but all white. It was not owned by Assan Motors, but by Honda Motor Company. And as in the fictional Hadleyville, the Japanese car company turned the city around and gave it hope for the future. But unlike the two hour movie, the phenomenal success of Honda in Ohio has been demonstrated over the past thirty years. And Honda was just the vanguard of the movement of foreign automakers establishing a presence in America.

Since 1979, when Honda built its motorcycle plant in Ohio, Toyota, Nissan, Subaru, Hyundai, BMW, Mercedes, Volkswagen, Mitsubishi, KIA and countless auto parts suppliers have invested in America. Investment from each of these “transplants” received a lot of publicity, and for good reason. Not only for the fact that they are investments in America’s much bemoaned, dwindling manufacturing sector, but they simply are big boosts for employment and revenue. In fact, auto assembly plants have a unique effect on an economy, even when compared to other manufacturing enterprises. What’s known as the “multiplier effect” is especially pronounced for auto investment. When an auto assembly plant opens in a city, it will prompt the creation of other jobs to serve it. This is not only jobs at auto parts suppliers, but also jobs in nearby restaurants,
in construction for new facilities and infrastructure, in transportation, and jobs countless other sectors. The effect is further strengthened by the fact that foreign automakers have, almost invariably, been financially very successful. The more successful the business, the greater impact the multiplier effect will have. It has been calculated that Honda is responsible for the creation of over 100,000 jobs over its three decades in the Buckeye state.

It should come as no surprise that states in America compete aggressively for auto investment. Each state wants that boost in jobs and tax revenue and each governor wants it to be known that he or she is fighting vigorously for new employment. What has become a feverish competition for investment obviously leads to the question, what do foreign automakers look for when they decide where to invest? This is the primary focus on for this paper.

To determine the most important factors, this paper will look at several things and it will be divided into two parts. In the first part, because investment from a Japanese or German automaker is investment across international borders, a review of the literature on foreign direct investment will be included. This will elucidate the predominant ideas regarding why, how, and where FDI takes place. There will also be a chapter on current trends and issues related to FDI. The second part of the paper will turn to issues specific to the auto industry in America. It will review the important ideas surrounding why auto FDI has taken place where it has. Next it will turn to a statistical analysis of auto FDI nationwide. Using a classification tree analysis, factors present in states that received investment and states that did not will be examined to identify any patterns. After that, will come a case study of Honda in Ohio. This will look at a single case in greater depth than the statistical study could allow, and will test the predominant theories on where auto FDI locates. Finally, the paper will end with conclusions and implications based on the data examined.
Part I

Foreign Direct Investment
in
the World
Foreign direct investment, in essence, is simply investment that spans international boundaries. This kind of investment, however, is more complicated in practice. Before proceeding further into this paper it is important to make clear the basic definitions of what constitutes foreign direct investment and its related jargon.

Foreign Direct Investment (FDI) is the act of a company located in one country acquiring controlling equity of another company or entity located in a second country. The United Nations Conference on Trade and Development’s (UNCTAD) World Investment Report defines FDI as:

...an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy in an enterprise resident in an economy other than that of the foreign direct investor. FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy (UNCTAD, 2005).

FDI can sometimes be confused with foreign portfolio investment (FPI), but these two forms of investment differ in two essential ways. Foreign portfolio investment, first of all, does not entail control, or intent to control, of a foreign company. Second, foreign portfolio investment also does not necessarily involve long term investment\(^1\). This distinction is important to understand when examining the motivations behind a company’s decision to undertake FDI. FPI is primarily a means to make money via increasing share prices or dividend income.

Any discussion of FDI would be remiss without mentioning the purveyor of FDI: the multinational corporation\(^2\) (MNC). Moosa provides a very simple definition of MNC. He writes that “firms become multinational (or transnational) when they undertake FDI”

\(^1\) The World Bank (2006) defines portfolio investment as such: “Stock and bond purchases that, unlike direct investment, do not create a lasting interest in or effective management control over an enterprise.”
UNCTAD’s World Investment Report presents a more complete definition.

[MNCs] are incorporated or unincorporated enterprises comprising parent enterprises and their foreign affiliates. A parent enterprise is defined as an enterprise that controls assets of other entities in countries other than its home country, usually by owning a certain equity capital stake.

The typical capital stake threshold is 10%\(^3\). To the US Bureau of Economic Analysis, “ownership or control of 10 percent or more of an enterprise’s voting securities is considered evidence of a lasting interest in or a degree of influence over management sufficient to constitute direct investment” (BEA, 1990). Any investment that falls short of the 10% threshold is considered portfolio investment. Some well known MNCs include McDonalds, British Petroleum, Ford Motor Company, General Electric, and countless others (see table below).

FDI is frequently described as a ‘flow’: specifically, FDI involves both inflows and outflows. Inflows describe the FDI that is coming into a country, while outflows describe capital leaving a country. The country where the investment originates, flows from, is called the ‘home’ or ‘source’ country. The target country, the recipient, is known as the ‘host’ country.

\(^2\) Multinational corporation is the most frequently used term for companies with operations in several countries but there is one notable alternate term. Trans-national corporation (TNC) is used by UNCTAD in its reports. Moosa (2002:6) discusses other monikers given to the MNC.

\(^3\) The 10% threshold is a widespread standard around the world. However, until 1997 in the UK the threshold was 20% (UNCTAD, 2005).
FDI can take three forms in the host country. UNCTAD (2005) categorizes FDI as a subsidiary, an associate, or a branch.

A subsidiary is an incorporated enterprise in the host country in which another entity directly owns more than a half of the shareholder’s voting power, and has the right to appoint or remove a majority of the members of the administrative, management, or supervisory body.

An associate is an incorporated enterprise in the host country in which an investor owns a total of at least 10 per cent, but not more than half, of the shareholder’s voting power.

A branch is a wholly or jointly owned unincorporated enterprise in the host country which is one of the following: (i) a permanent establishment or office of the foreign investor; (ii) an unincorporated partnership or joint venture between the foreign direct investor and on or more third parties; (iii) land, structures (except structures owned by government entities), and/or immovable equipment and objects directly owned by a foreign resident; or (iv) mobile equipment (such as ships, aircraft, gas or oil-drilling rigs) operating within a country, other than that of the foreign investor, for at least one year.

Similarly, FDI flows come in three forms. The foreign affiliate gets its money in one of three ways: equity capital, reinvested earnings, or intra-company loans or intra-company debt transactions. Equity capital is simply the foreign direct investor’s purchasing of shares of an enterprise other than its own. Reinvested earnings are profit that would otherwise be remitted to the company in the home country but is instead put back into the subsidiary. And finally, intra-company loans and debt transactions are exactly what the name implies, but they incur lower costs than would be encountered from a third party because they are conducted between company entities. At any given time the financial relationship between headquarters and subsidiary can take the form of any or all of these financial flows.

There are yet other forms of foreign direct investment that do not fall under the previous rubric. Since the key characteristic in FDI is control, companies can obtain control over enterprises by ways other than equity investment. These include, among others, “subcontracting, management contracts, turnkey arrangements, franchising, licensing and product-sharing” (UNCTAD, 2005). Although the MNC may not be using plants and facilities it owns, the production is still taking place in another country using the techniques, technology, or capital of the MNC.
The kinds of facilities (physical assets) that result from FDI fall under one of three categories. If a subsidiary is a brand new facility (for the purpose of production, distribution, or other) then the investment is termed ‘greenfield’ investment. If no new facilities are constructed but they simply change owners, including privatization, then the investment is described as a merger or acquisition. Mergers and acquisitions are also sometimes known as ‘brownfield’ investment. The third result of FDI is the joint venture where a domestic company and foreign company collaborate on some enterprise.

Caves (1971) offers yet another useful way to describe FDI⁴. In terms of production, there are three types of FDI: horizontal, vertical, and conglomerate. Horizontal FDI is when a company produces the same products in both the home and host countries. Vertical FDI is when a company expands its capabilities at certain points in the production process. Examples would include a company buying access to raw materials used late in the production process (backward vertical FDI) or purchasing distribution outlets (forward vertical FDI) for selling the products. Conglomerate FDI is simply a combination of the horizontal and vertical varieties.

Expressed in the most basic way, FDI is no more than a company making an investment in another country. But the discussion the how’s and why’s of FDI require an understanding of these descriptive terms. The next chapter will present how scholars answer these how and why questions.

⁴ There are still other classifications of FDI. Moosa (2002) sees FDI as import-substituting, export-increasing, or government initiated FDI. Kojima (1973, 1975, 1985) sees FDI as either trade-oriented or anti-trade-oriented. Chen and Ku (2000) bifurcate FDI into defensive and expansionary. Some of these classifications are closely tied to specific theories. The classifications included in this chapter are descriptive and theoretically neutral.
Chapter Three

Theories of Foreign Direct Investment
The how’s, why’s, and where’s of FDI

Thoughts and opinions on foreign direct investment seem to be as plentiful as the dollars exchanged around the world that pay for it. The literature on the causes and goals of FDI is large. Several academic disciplines offer theories on what drives FDI including economics, business, political science, and geography. Governments and international organizations also contribute ideas to the intellectual milieu. This chapter will attempt to encapsulate the predominant ideas concerning FDI. It will begin with theories that explain why MNCs engage in FDI. Next it will turn to the ideas about why countries want to receive FDI. Finally, special attention will be paid to thoughts about an issue that lies at the nexus of first two topics: what role do incentives play in influencing MNCs locational decisions.

Why companies pursue FDI...

The literature concerning foreign direct investment (FDI) is massive indeed and its theoretical propositions easily qualify as eclectic (in fact, one theory takes “eclectic” as its name). Theories\(^5\) on FDI offer many explanations for why, how, and where it occurs. Some theories posit why Multi-national corporations (MNC) partake in FDI. Other theories explain why FDI flows where it does. Still other theories offer reasons for why MNCs choose a certain mode of FDI.

For the purpose of this literature review this paper will follow the categorization scheme used by Agarwal (1980), Lizondo (1991), and Moosa (2002). This scheme calls for a four-fold classification of the theories. Theories from economics, business, and political science disciplines are included. They will be broken down as such:

\(^5\) Moosa (2002:23) prefers to call theories on FDI hypotheses. He feels, agreeing with Agarwal (1980:740) who writes that because “there is not one but a number of competing theories with varying degrees of power to explain FDI”, that hypothesis is a better term than theory. For this paper, however, I will use theory.
1) Theories that assume perfect markets  
2) Theories that assume imperfect markets  
3) Other theories, and  
4) Theories based on other variables

The one assumption that is common to all these theories is that MNCs undertake FDI for the sole purpose of making profit.

**Theories that assume perfect markets**

Perfect market theories assume perfect competition, free access to information, and an unobstructed access to buyers and sellers, etc. Barriers to trade, monopolistic competition, and incomplete dissemination of information are assumed not to be problems.

**Differential Rates of Return Theory**

Advocates of this theory look to differing rates of return on investment to explain FDI flows. According to this theory, an MNC will concern itself solely with comparing the marginal return on the marginal cost of capital among various investment opportunities. This theory also assumes risk neutrality which implicitly equates foreign investment with domestic investment. MNCs should simply seek out the countries where the return on their investment will be the greatest.

There are several obvious shortcomings to this theory. Moosa (2002:24-25) points out several of these. First of all, this theory implies a unidirectional FDI flow when in reality we observe FDI flows in both directions. If state A has a lower rate of return on investment than state B then this theory predicts that MNCs from state A will invest in state B without reciprocal investment from state B’s MNCs. But we clearly see examples of FDI in countries with high and low rates of return. Moosa raises other issues that this theory cannot address, such as an MNC may conduct FDI out of a desire to maximize sales revenue, increase market penetration, or circumvent trade barriers. We also know that risk is a substantial part of any MNC’s calculation. This theory also cannot explain why a MNC chooses FDI over portfolio investment.

There have been several studies testing this theory and they have on the whole failed to provide strong evidence in support. Examples are Weintraub (1967) and Bandera and White (1968).
*Portfolio Diversification Theory*

This theory agrees with the Differential Rates of Return theory in that MNCs want to invest where the rate of return is the greatest, but this theory incorporates a risk calculation. Originating in the work of Tobin (1958) and Markowitz (1959), according to this theory, MNCs, in order to minimize risk, diversify their investments. They will invest in countries even if their expected rate of return is not the highest but the risk seems more manageable.

Empirical studies such as Agarwal (1980) and Hufbauer (1975) provide only moderate support for the theory. Moosa (2002:26), however, finds much difficulty in testing this theory; He cautions that both risk and profitability can, at best, only be roughly approximated.

*Market Size Theory*

This theory looks to the size of a country’s gross domestic product (GDP) or the market size of a certain industry as a predictor of FDI. When the size of the economy or industry reaches a critical mass such that specialization and economies of scale can occur, FDI should increase.

Most tests of this theory provide support for it, but not without reservation. See Moore (1993) and Wang and Swain (1995).

*Theories Assuming Imperfect Markets*

The assumptions supporting neoclassical economic theory have becoming increasingly questioned. Assumptions such as complete availability of information, uninhibited diffusion of technology, and perfect competition often are clearly undermined in reality. Gilpin (2001:103) described these new economic theories in this way⁶.

As a group, these novel and still highly controversial theories...challenge such fundamental assumptions of neoclassical theory as perfect competition, constant returns to scale, and complete information. These new theories emphasize the importance of oligopolistic competition, economies of scale, and technological innovation, and they also incorporate historical processes, institutions, and spatial relations.

⁶ See Lall & Streeten (1977:16-18) for another description on the shortcomings of neoclassical economic theories, especially as it relates to FDI.
Many of these “controversial theories” will be covered in this section.

**Industrial Organization Theory**

When a MNC establishes a subsidiary in another country that subsidiary faces many challenges. The subsidiary will possibly have to adjust to a new language, culture, or legal system\(^7\). In fact, because of these challenges a subsidiary may have to pay its workers higher wages because employment with this firm appears more risky. But in spite of these challenges, a MNC may set up a subsidiary. Why? According to the industrial organization theory, the MNC posses some firm specific advantages that enable it to compete effectively even in an environment that presents extra costs. Hymer, from his seminal work on this theory writes:

Firms are by no means equal in their ability to operate in an industry. Certain firms have considerable advantages in particular activities. The possession of these advantages may cause them to have extensive international operations of one kind or another. The firm will in some cases license its advantages to a local firm; in other case it will itself operate the foreign enterprise (Hymer, 1976:41).

These advantages include “a well-known brand name, patent-protected technology, managerial skills, and other firm-specific factors” (Moosa, 2002:30). Lall and Streeten (1977:20-29) provide a more complete description as summarized in the table below\(^8\).

<table>
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<th>Advantage</th>
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<tr>
<td>Capital</td>
<td>The MNC possesses larger and cheaper capital than local or foreign competitors</td>
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<tr>
<td>Management</td>
<td>Better management skills or better business acumen that enable the firm to better identify risky and profitable endeavors</td>
</tr>
<tr>
<td>Technology</td>
<td>More productive research and development capabilities and better record of employing discoveries in successful products/production</td>
</tr>
<tr>
<td>Marketing</td>
<td>Better understanding of the market and more effective advertising and promotion</td>
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\(^7\) Hymer (1976:34) that these are real challenges to a newly established subsidiary but the are “fixed costs.” They are incurred once and never again.

\(^8\) Kindleberger (1969:14-27) finds similar factors important to an MNC’s decision to engage in FDI.
Examples of such motivations are easily found. One example is Japanese automakers building assembly plants in America. The reason for their continuing success is often attributed to a superior management style and ability to exploit new technology in the production of automobiles. Another example is of Coca Cola setting up a plant in India in place of licensing its soft drink to an Indian producer. The company was concerned about losing its firm-specific advantage if the foreign firm stole vital information, namely its brand name and its Coke formula (its patent-protected technology). Coke subsequently divested its assets in 1977 when the Indian government pressured the company to reveal its formula to authorities (“India Clears”, 1993; “Coca-Cola Rebuffed”, 1990). Both Japanese automakers and Coke’s arrival and departure provide evidence that MNCs are conscious of unique advantages they possess.

Hymer (1976) acknowledged that testing such a theory would require a tremendous amount of information. Nevertheless, Hymer provided some empirical evidence to support his theory. Using government data on US participation in manufacturing industries in foreign countries he did find a concentration of investment in certain industries and this, “in a rough way,” lends support for the idea of firm-specific advantages. Hymer, however, lamented the paucity of micro-level information on individual firms (1976:161-165).

Lall and Streeten (1977) found, like Hymer, that firms that engage in FDI are large firms; indeed, they are oligopolistic or even monopolistic. The authors went so far as to conclude, that:

9 Hymer (1976:97) writes: “The theory implies that the relevant units of study are particular industries and particular firms and not the aggregates of international operations. To make a proper study of international operations, one would need to know the industrial composition of national product for each country, the share of industry output in each country of firms of every nationality, the strength of the advantages of firms, and details of the structure of industries and the patterns of international trade. What we have is considerably less.”

10 Hymer’s empirical research led him to three conclusions: American FDI was concentrated in certain industries, and not spread around; the firms that invested abroad accounted for a large share of their home market and their subsidiaries accounted for a large share of the host market; and it was often the case where in industries where American firms invest abroad, there was usually a foreign firm that invested in the American industry. Their results are summarized on page 98 and discusses in chapter 4.
...a necessary condition of direct investment is that the investing firm has some monopolistic or oligopolistic advantage not possessed by potential competitors (emphasis is theirs) (Lall et al, 1977:18).

When a firm is large and oligoplastic in nature it will naturally have many of the advantages listed in the table above. The authors write that all these factors have a “cumulative and dynamic” effect on the expansion of MNCs and their FDI. However, they place special importance on marketing and technological advantages.

Graham and Krugman (1995) studied FDI in America and concluded that the industrial organization theory best explains this phenomenon. They analyzed a widespread assumption that US foreign debt, which makes US capital cheap, increasing since the 1980s, could have had some bearing on the increasing FDI. They noted that this cost of capital explanation was deficient in three ways: first, the rise in FDI had begun in the 1970s, preceding the US’s debtor status; second, much of the growth was accounted for by a shift away from portfolio investment to direct ownership of assets; and third, FDI also varies considerably by sector and nationality of owner. They claim that if FDI were simply are result of capital flows this kind of distribution would not be seen. The authors explain that change from overwhelming FDI-outflow in the US following WWII to a currently more balanced inflow and outflow of FDI in America to an “erosion of the US superiority on all fronts” (Graham et al., 1995:41). The advantage US MNCs formerly possessed has disappeared as foreign MNCs have become more competitive. A cost of capital explanation is deficient compared to comparing capabilities of MNCs.

Kimura (1989) examined data of Japanese semi-conductor firms to try to identify inter-firm differences that explained why some firms conduct FDI and others do not. His study found that a firm’s technological lead, particularly in advanced countries, and:

broad breath of product line and partially internalized vertical linkages may transfer to foreign locations and have some effects on the size of the firm’s FDI activities (Kimura, 1989:310).

In other words, a firm will be able to capitalize on its technological advantages in other countries as well.

There are many shortcomings to this theory. It does not explain why a firm decides to invest in one country and not another. Nor does it explain why it chooses FDI
over exporting. Other important works concerning the industrial organization theory include Kindleberger (1969), Caves (1982), and Dunning (1988).

**Internalization Theory**

This theory, first propounded by Buckley and Casson (1976), questions the assumptions of neoclassical economics, especially perfect competition and full information. It says that FDI can take place when a firm wants to replace imperfect market transactions with internal transactions: A MNC can save money on certain marketing costs by building a firm and incorporating functions that were previously outsourced, or provided by another firm. The authors find imperfect competition in the costs of organizing markets, namely markets for intermediate goods. The advantage of “internalizing” can be seen in the decrease of time lags and bargaining and buying uncertainty. For example, a company that makes heavy use of some natural resource may find it advantageous to purchase a mine, well, or farm so that supply uncertainly disappears. Relatedly, if the potential FDI could involve some kind of licensing, the MNC may prefer to purchase a subsidiary to ensure the secrecy of their proprietary knowledge or technology (e.g. the Coke example discussed above).

Several works have examined the explanatory strength of internalization theory. Williams (1997) found the internalization theory, over eclectic theory (explained later), to be the superior explanatory tool when he examined Australian multi-national banks. Henisz (2003) found empirical support for Buckley’s and Casson’s internalization thesis but noted certain shortcomings. He finds that FDI flows to areas not predicted by the theory and is dominated by a few large MNCs. He also argues that the theory must be expanded to include “institutional idiosyncrasies.”

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11 Buckley and Casson (1976:33) write “...the modern business sector carries out many activities apart from the routine production of goods and services: particularly important are marketing, R and D, the training of labour, the building of a management team, the procurement of finance and the management of financial assets, etc. All these business activities are interdependent and connected by flows of intermediate products. The intermediate products are sometimes ordinary semi-processed materials passed on from one industry to another, but more often are types of knowledge and expertise, embodied in patents, human capital, etc. Efficient co-ordination of business activities requires a complete set of markets in the intermediate products. However, markets in certain intermediate products are difficult to organize, and it is our thesis that attempts to improve the organisation of these markets have led to a radical change in business organization, one aspect of which is the growth of the [MNC].”
Other informative works on internalization theory include Buckley (1992), Casson (2000), Rugman (1986), Rugman & Verbeke (2003), and Williams (1997).

*Location Theory*

The location theory presupposes the immobility of some factors of production. Because some factors are immobile (labor and natural resources for example) FDI will flow to where prices are lowest. This theory touches on some of the most controversial aspects of FDI in America. For example, this theory suggests that FDI will flow to countries where labor prices are lower. This is an explanation given for the large FDI flows from America to countries like China and India. But simple wage differentials are not the only basis of comparison. MNCs will also be attracted by countries with high labor productivity. Therefore, FDI to high wage, developed countries, can also be explained by this theory because in this case their high labor productivity serves as the impetus.

Horst (1972) examined the relationship between exports and subsidiary sales by American firms in 1963. His regression analysis led him to make five conclusions supportive of the location theory. He wrote (Horst, 1972:40):

> …the principal factors determining the cost of exporting relative to the cost of Canadian subsidiary production would seem to be:
> 1) the Canadian tariff on the exports, but not subsidiary production, of U.S. firms;
> 2) the higher cost of manufactured inputs in Canada compared to their cost in the United States;
> 3) the lower cost of many natural resource inputs in Canada compared to their cost in the United States;
> 4) the lower wage paid to Canadian workers compared to that paid to U.S. workers; and
> 5) the higher costs of small-scale production characteristic of Canadian but not of U.S. plants.

Sethi, Guisinger, Phelan, and Berg (2003) studied US MNC behavior in Asia during the years 1981-2000. They found that US MNCs had invested in the region in order to take advantage of low wages. Woodward and Rolfe (1993) found that such locational factors as wage rate, inflation rate, transportation costs and others were statistically significant in the location of export-oriented FDI.
Eclectic Theory

The Eclectic Theory\textsuperscript{12} is more complicated than the previously discussed theories due to the fact that it is an amalgamation of three of them. It is also the most prominently discussed theory in the international political economy literature (Tuman & Emmert, 2004:11). First developed by Dunning (1977, 1979, 1980, 1988), this theory explains why a MNC would choose to expand its operations by means of FDI. The eclectic theory begins by asking two questions. First, is there a demand for a particular commodity in another country and why is it not being provided by a domestic firm? And second, if a firm wants to expand its scale of operations why would it choose one method over another? To expand its scale of operations, a firm has four choices from which to select, as described by Moosa (2002:36-37):

1. producing in the home country and exporting to the foreign country
2. expanding into a new line of business within the home country
3. indulging in portfolio investment in the foreign country, and
4. licensing its technology to foreign firms that carry out the production

A MNC may undertake FDI after considering these three factors:

...first, the extent to which it possesses (or can acquire, on more favorable terms) assets which its competitors (or potential competitors) do not possess; second, whether it is in its interest to sell or lease these assets to other firms, or make use of-internalize-them itself; and third, how far it is profitable to exploit these assets in conjunction with the indigenous resources of foreign countries rather than those of the home country (Dunning, 1980:9).

Insofar that these factors can be described in the affirmative, FDI will become more likely.

Several scholars have investigated this theory. Galán and González-Benito (2001) applied the eclectic theory to Spanish FDI. They report that MNCs do in fact consider all three aspects of the theory before they commit to FDI. Javalgi, Griffith, and White (2003) apply the eclectic theory in a survey of 228 service firms. They find that indeed organization and locational factors influence FDI. Tuman and Emmert (2004) study MNC behavior in Latin American and find partial support for the eclectic theory. They

\textsuperscript{12} The eclectic theory is also known as the OLI model. O stands for ownership advantages (industrial organization), L stands for locational advantages, and I stands for internalization advantages.
criticize its emphasis on economic factors and encourage examination of other antecedents: possibly the effects of political decisions, education, and human rights.

Other scholarly studies that are germane to this theory include Casson (1990).

**Product Life Cycle Theory**

This famous theory was first advanced by business economist Raymond Vernon (1966; 1971). In his efforts to explain the proliferation of American MNCs after World War II he argued that the maturity of a product could determine when and if FDI takes place. Vernon criticizes previous theories that point exclusively to the cost of factors of production. Instead, he emphasizes the role knowledge and communication plays in the development and production of new products. He argues that entrepreneurs know the market in which they are located better than any other. He also underlines the importance of communication in the early stages of production of new products. These factors lead to three phases.

1. A new product is first produced in the home country. In the beginning close coordination between R&D and production is still required. Demand for the product is price inelastic so the price is high. At this stage demand for the product emanates solely from the home country.
2. The product matures and enters the international market. Consumers in other developed economies begin to purchase the product. Increased demand in other countries induces the establishment of subsidiaries in those countries to meet production needs. The home country is still a net exporter of the product and foreign countries are net importers.
3. Commoditization of the product occurs and new competing producers emerge. Countries that were formerly importers become exporters and the original, innovating firm looks to low cost areas to which to shift production. Whereas the original firm could charge a high price when the product was new, in this stage competition takes place on the basis on cost saving advantages. FDI consequently moves production to low cost countries.

In short, “FDI takes place as the cost of production becomes an important consideration, which is when the product reaches maturity and standardization” (Moosa, 2002:39).

Parry (1975) conducted a statistical analysis on UK MNCs sending pharmaceutical production abroad. His results support Vernon’s product life cycle theory. Time has weakened the strength of this theory, however, which Vernon himself readily admits. When he first published this theory the US was the undisputed leader in innovation. Since then other economies have grown and so too their GNP per capita (he
draws special attention to Western Europe and Japan). This fact weakened his argument that entrepreneurs know their own market best as these economies became more similar. Another key difference is the breadth of MNC operations. Today, MNCs can have facilities in many countries simultaneously developing and producing new products. He notes that it is rare for a company to be located solely in its home market and to develop for its home market. On the contrary, he writes that MNCs with “highly developed multinational networks of producing units typically account for more than half the global output in their respective product lines” (Vernon, 1979:258). This is especially true in industries such as chemicals, electronics, machinery, and transportation equipment.

Some empirical work still supports the theory. Mullor-Sebastián (1983), an economist with the IMF, tested empirically the product life cycle on six US industries. Her results “strongly support” Vernon’s theory when analyzed from an industry-wide perspective. When examined by commodity the support was weaker. Lutz’s and Green’s investigation provided “as a whole theory-confirming results” (1983:90). The relationship was especially strong for industries using high technology.

*Oligopolistic Reactions Theory*

Scholars such as Knickerbocker, the author of the seminal work on the theory, (1973), Kreinin et al. (1999), Lall and Streeten (1977), Vernon (1979) have described FDI as a result of oligopolistic competition. In oligopolistic environments firms have more incentive to conduct R&D and be conscious of what their competitors are doing. If one competitor conducts FDI it may trigger its competitors to follow suit in order to maintain current market share and protect the status quo. Vernon describes one such scenario:

…a triggering event is likely to be required before the producer will seriously make the calculations that could lead to the creation of a foreign producing facility. The triggering event ordinarily occurs when the innovator is threatened with losing its monopoly position. In the usual case, rival producers appear, prepare to manufacture the product from a location that could undersell the original innovator (Vernon, 1979:257).

In this situation it is one MNC’s ability to manufacture at lower cost than another that “triggers” another MNC to commit to FDI.
Yu and Ito (1988) compared the US tire industry, what they considered to be an oligopoly, with the US textile industry, a non-oligopoly. They find greater propensity to react to rivals in industries with less competition than in industries with more competition. They, however, did not consider oligopolistic reaction to be the only motivator. The authors also say that firm-related and country related factors are at play.

Other theories of Foreign Direct Investment

This set of theories is diverse. Some do not attempt to explain what prompts FDI but how it is managed after the original investment takes place. Others describe FDI as a substitute for trade.

Internal Financing Theory

Stobaugh (1970:61-62) notes the complexity of financial decisions for MNCs:

Financing [MNCs] is a more complex problem than is typically faced by a domestic corporation. More sources of funds are available, more than one currency is used, and the laws and regulations of more than one national government are encountered.

This theory attempts to explain how firms manage these complexities. Based on the ‘gambler’s earnings’ hypothesis of Barlow and Wender (1955:165), the internal financing theory sees MNCs spending only a modest amount on their initial FDI in a country. Any expansion of FDI in that country will come as the result of reinvested profits from the subsidiary. The advantage of this process is that internal financing (capital) is cheaper than if it were obtained on the open market. Froot and Stein explain that “asymmetries of information” are one of the reasons why external financing is more expensive (1991:1195). Hartman (1985) relates reinvested subsidiary earnings to tax policies in the home country, in that high home tax rates discourage repatriation of profits. Moosa (2002:43) points out that this theory is particularly suited for FDI in developing countries, because there are often restrictions on the movement of funds and financial markets are typically rudimentary.

Stobaugh (1970) conducted interviews to determine the financing practices of MNCs. He divided them into small, medium, and large companies. He finds that small
MNCs enjoy a large degree of independence, including making financial decisions, from their headquarters and they provide some support for the internal financing hypothesis.

Other noteworthy works include Brash (1966), Safarian (1969), Kwack (1972), and Hoelscher (1975).

*Currency Area Theory and Effect of the Exchange Rate*

At the heart of this theory is the notion that countries with strong currencies will be sources of FDI while countries with weak currencies will be recipients of investment. Aliber, the originator of this theory, (1970:20) writes:

…the key factor in explaining the patter of direct foreign investment involves capital market relationships, exchange risk, and the market’s preferences for holding assets denominated in selected currencies.

According to the theory MNCs in a strong currency area will be able to borrow capital in host countries at a cheaper rate than host companies because there is a market preference for holdings in strong currencies. This amounts to a “bias in capital markets” for strong currencies in order to mitigate foreign exchange risk (Moosa, 2002:44).

Relatedly, some have argued that the relative exchange rate can influence the direction of FDI. Different authors, however, have identified different relationships. When one currency appreciates the exports from that country become more expensive. As a result, MNCs will partake in FDI in countries with depreciating currencies as a substitute for exports (Mundell equivalency). Stated in a different way, currency appreciation is inversely related to FDI inflows. When a currency depreciates in country A, the assets in that country become cheaper for firms in a country B, where the currency is appreciating. The disparity invites FDI from country B to country A.

Froot and Stein (1991) examine the effect of exchange rate on FDI. They find that fluctuations of exchange rate do affect the flow of FDI. This explains the decrease of Japanese FDI from the late 1980s to early 1990s. They write that a depreciating currency “can give foreigners an edge in buying control of productive corporate assets” (Froot *et al.*, 1991:1215).

Another study by Ray (1991) also provides support for the idea that depreciating currency encourages foreign investment. He concludes that both “real and monetary factors influenced the timing and magnitude of FDI activities in the United States
between 1979 and 1987” and allowed foreigners to “buy America on the cheap” (Ray, 1991:64).

Graham and Krugman (1995) do not support this theory. Drawing the opposite conclusion as Froot and Stein (1991) they think Japanese FDI in America is better explained by industrial organization factors, not currency exchange. See the description of the industrial organization theory for elaboration.


*Theory of Diversification with Barriers to International Capital Flows*

Agmom and Lessard (1977) theorize that FDI occurs when two conditions concerning MNCs are valid: first, there must be barriers to portfolio investment that are in excess of barriers to direct investment; and second, that investors must recognize that MNCs provide unique diversification opportunities. The first condition is easily understandable, but the second condition requires explanation. Agmom’s and Lessard’s research led them to discover that this unique diversification opportunity is that stock prices of MNCs more closely reflect fluctuations in world-markets than fluctuations in its home market, and MNCs stock prices vary less than firms that are essentially domestically oriented. They conclude that “MNCs often can diversify internationally at a lower cost than portfolio investors” and they suggest that the diversification motive should be given more consideration (Agmom et al., 1977:1055).

*Kojima Hypothesis*

Kiyoshi Kojima’s hypothesis (1973; 1975; 1985) is multi-faceted. First it posits that MNCs undertake FDI when they are losing their comparative advantage. Kojima

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13 The authors considered the barriers to include “formal ‘border’ barriers as the US IET, formal internal barriers such as SEC registration requirements, informal border barriers resulting from investor tradition and/or lack of information, and informal internal barriers which would include relatively undeveloped or inefficient domestic capital markets” (Agmom et al., 1977:1050n3).

14 Kojima’s hypothesis has been variously called a “macro economic approach”, a “factor endowments approach”, and a “model of trade oriented (Japanese-type) foreign investment. The Kojima attempts to draw a distinction between American and Japanese FDI (Buckley, 1989:186).
argues against any kind of monopolistic motive for FDI\textsuperscript{15}. Furthermore, he sees FDI as a means to transfer capital, technology, and managerial skills from the home country to the host country. Kojima breaks down FDI into two kinds. The first is trade-oriented. Under this kind of FDI exports and imports increase at the original terms of trade and generally flow to the industries where the home and host countries have a comparative advantage. Welfare is improved on both sides as industrial restructuring and specialization occurs. The second kind of FDI is anti-trade-oriented. FDI of this sort flows from the industry, with the comparative advantage, in the home country to the industry, with comparative disadvantage, in the host country. This promotes unfavorable industrial restructuring and hurts the volume of trade. In this instance FDI is a substitute for trade. Kojima argues that Japanese FDI is of the first kind, and superior in terms of overall welfare, while US FDI is of the second.

Lee (1984), however, argues that the Kojima hypothesis lacks a solid microeconomic base. He also argues that there is no reason to believe that firms losing their comparative advantage will invest abroad. Instead, he writes that “what matters to firms’ investment decisions is the absolute and not the comparative rate of profit” (Lee, 1984:718).

Buckley (1989:186-190) finds much to criticize in the Kojima hypothesis. He sees the primary purpose of the theory to “contrast the virtues of ‘Japanese-type’ direct investment with the disadvantages of the ‘American type.’” Buckley also notes that the theory cannot explain FDI between advanced countries or intra-industry FDI. The theory also cannot explain why a firm would choose FDI over a long-term purchasing agreement with a foreign firm. Lastly, Buckley faults Kojima’s denial of the benefits of internalization and other advantages in FDI. He chides Kojima’s statement about the “pseudo-economies of scale” in other theories on FDI (Kojima, 1985:13).

**Theories Based on Other Factors**

**Political Risk and Country Risk**

Volatile political environments have an inverse relationship with the amount of FDI according to this theory. If governments, laws, taxes, security, etc. capriciously

\textsuperscript{15} See industrial organization theory above.
change then risk increases dramatically and discourages investment. White and Fan (2006:147) write this about country risk:

Country risk arises from the interaction of strategies formulated and implemented by the relevant enterprise and the relevant country government. This interaction occurs within a political, economic, financial and cultural context which is often alien to the foreign investor. The problem in the political area may be ignorance of what the host government is likely to do. Country risk brings in the government as a critical strategic player.

White and Fan proceed to identify political risk as the most influential of all risk subsumed under country risk.

...political risk can be defined as the negative impact on a key performance indicator or a strategic target relevant to an investment, of an unanticipated change in the political environment of the host country, whatever its nature – a regime change, a policy change or an increase in political turbulence. Political risk includes elements of political instability, government policy change uncertainty, comprising everything from expropriation to tax changes, and social instability uncertainty (White et al., 2006:147-148).

Of course a MNC’s investment loses its profitability when it is nationalized or caught in civil conflict or myriad other potential political calamities. Other factors, such as corruption and crime can also be influential.

Stevens (2000) laments the dearth of literature examining political risk and FDI as he examined Brazil, Argentina, and Mexico in his study. For this troika of countries he incorporates two political variables\(^{16}\) into his FDI model: the first, tax and interest rates, in the sense that they are set and influenced by the government; and second, government announcements of expropriation. Stevens find that by adding political variables models that explain FDI are greatly strengthened. A regression model that once explained only 17% of the variation now explains 90 to 97% of the variation in FDI flows with political variables added.

\(^{16}\) The author considered these four political factors relevant to FDI (Stevens, 2000:158): the possibility or actuality of exchange controls and other limitations on the repatriations of profits; the threat of costly, politically-inspired laws and regulations; the threat-coming sometimes from specific governmental actions, sometimes from conditions of domestic unrest and violence-of temporary shutdowns, or, even, expropriations; and the possibly independent impact of international disruptions such as the Debt Crisis of the 1980s. He only included two political variables because of “theoretical and measurement issues.”
Habib and Zurawicki (2002) investigate the effect of corruption on FDI. They argue that adding corruptions variables to traditional models on FDI, such as eclectic theory or industrial organization, adds to their explanatory power. They compare FDI flows with Transparency International’s Corruption Perception Index (CPI). Their hypothesis that corruption has a negative effect on FDI is supported by their findings. They also find that the depressing effect on FDI is lessened as the delta between corruption measures of the home and host country decreases.

**Tax Policies**

Taxes affect the profitability of FDI. How income is treated in the host country, how repatriated income is treated in the home country, and how domestic investment is handled by home country authorities all affect the decision to undertake FDI. Jun (1989) sees three aspects to the role tax policies play. First, when tax rates are relatively low abroad this would make invest more profitable. Second, if tax rates in the home country are high domestic investment becomes less profitable. And third, tax policies affect the relative cost of capital. Statistically Jun (1989) found that as the corporate tax rate increases, the outflow of FDI also increases. Slemrod (1990:112) finds that taxes have a “negative effect” on FDI into the US. He did not find any evidence that home country tax rates have any effect on outgoing FDI.

Hartman (1984) conducted one of the first examinations of the relationship between taxes and FDI. He finds support for the proposition that rising corporate tax rates can apply a downward pressure on incoming FDI. But he also finds that cutting individual tax rates (this effect pertains mostly to the upper tax brackets) can also apply downward pressure on incoming FDI. In this case, Americans, for example, could find it more attractive to make domestic investments than potential foreign investors. Hartman also writes that mature MNCs are less affected by tax rates.

Inclan, Quinn, and Shapiro (2001) look at FDI from a political science perspective. They find distinct relationships between corporate tax rates and Republican (they lower them) and Democratic (they raise them) presidential administrations. During the years 1981 to 1998, however, they find that “neither increased tax revenue nor rates
are a detriment to increasing trade and foreign direct investment inflows and are at most
only a modest stimulant to increased FDI outflows” (Inclan et al., 2001:197).

Other empirical studies include Boskin and Gale (1987) and Hines and Rice (1994).

Trade Barriers

FDI may be pursued in order to avoid barriers to trade like high tariffs or voluntary export restraints\(^\text{17}\) (VER). Also, simply the threat of protectionism can prompt FDI according to this theory. Common examples given to support this thought is FDI in Mexico to take advantage of NAFTA and FDI in Spain for access to the EU.

Salvatore (1991) sees that US tariffs and non-tariff barriers\(^\text{18}\) (NTBs), especially those protecting the auto and color television industries, have encouraged circumvention by means of FDI. He draws a distinction between “tariff jumping” and “quid pro quo”\(^\text{19}\) FDI. “Tariff jumping” FDI is simply avoiding actual trade protection. “Quid pro quo” FDI is more complicated.

The latter refers to investment that is induced by the fear of higher trade protection and is intended to defuse that threat. By setting up local production facilities and thereby creating domestic jobs, a foreign industry or nation hopes to defuse the threat of higher all-around trade protection against its exports (Salvatore, 1991:94).

Salvatore does state, however, that this is only part of the explanation of FDI. Other theories are certainly relevant.

Government Regulations

Governments can encourage, discourage, or do both simultaneously to affect MNCs’ decision to invest. Governments can offer financial incentives while at the same time imposing restrictions, such as on profit repatriation. Moosa (2002:55) describes these typical incentives:

\(^{17}\) When discussing this theory Moosa (2002:54) writes this line relevant to the topic of this paper: “A real-life example of a move like this is Honda’s establishment of production facilities in Ohio to circumvent the tariffs and quotas imposed by the US government.”

\(^{18}\) Non-tariff barriers include voluntary export restraints (VERs), orderly marketing arrangements, antidumping measures, countervailing duties, safeguard codes, and other barriers (Salvatore, 1991:97).

\(^{19}\) Salvatore credits Jagdish Bhagwati (1987) with this term.
1. Fiscal incentives such as tax reductions, accelerated depreciation, investment and reinvestment allowances, and exemption from customs duties. It is arguable that fiscal incentives may be successful in attracting the new ‘footloose’ variety of sourcing investments, but not those of more long lived natures.
2. Financial incentives, such as subsidies, grants, and loan guarantees
3. Market preferences, including monopoly rights, protection from competition arising from imports, and preferential government contracts.
4. Low cost infrastructure, fuel, and energy
5. The provision of information by means of agencies located in the capitals of source countries
6. A framework for clear, efficiently implemented stable policies with respect to FDI
7. Flexible condition with respect to local equity participation

Many authors, however, question the efficacy of offering such incentives. Many say, including Moosa (2002:56), that the overall environment of a country (political, social, and economic conditions) is what truly makes a difference. Tax incentives, for example, simply deprive the government of revenue and the FDI would probably have taken place irrespective of incentives. Incentives are further discussed later.

Governments also impose disincentives. They can range from prohibitions on investment in certain industries or there may be domestic content requirements or requirements on hiring. The government may also impose onerous restrictions on repatriation of profit.

Offering both incentives and, what some would argue as, disincentives has come to be known as trade related investment performance (TRIPs) requirements. Graham et al. (1995:158) define these performance requirements as “governmentally imposed stipulations that firms meet certain specified goals with respect to their operations within the government’s jurisdiction.” These goals typically include minimum local content or value added; employment goals; or trade goals, such as minimum export requirements; and other requirements. Moosa (2002:57) writes that TRIPs should be viewed as disincentives to investment. For example, local content requirements can make inputs more expensive which can make the enterprise less competitive. Governments can be motivated to impose TRIPs for several reasons. First, they can be an explicit commitment to increasing the volume of foreign exchange, especially if there is an export requirement. Second, they can correct market distortions. And third, they can be a defensive measure to protect a domestic industry.
Graham and Krugman (1995) argue vehemently against TRIPs. Their argument echoes arguments against trade protectionism in that they see TRIPs as egregious distortions of the market. They write:

…[TRIPs] are likely to lead to inefficient allocation of resources, and in particular they give rise to the danger that resources will be allocated away from industries in which the nation imposing them has comparative advantage, and toward industries in which local production is relatively inefficient. In the extreme, performance requirements could deter beneficial foreign investment (Graham et. al., 1995:159).

They further complain that TRIPs are often offset by offers of massive incentives. When there is competition between states, for example, there is a deleterious beggar-thy-neighbor effect. The end result is the “transfer of economic rents from the United States to foreign firms.” The only situations in which TRIPs may be appropriate, in the view of Graham and Krugman, is for national security reasons or if they are part of an industrial policy.

Several studies have been done on the effect of governmental regulations. Li (2006) writes that offering tax incentives to attract foreign investment has become a “global phenomenon.” In his article he explores whether there is a relationship between regime type, democratic or authoritarian, and the amount of incentives that are offered. He examines 52 countries and finds support for his hypothesis that democratic countries offer fewer incentives because their economic environment presents less risk.

Brewer (1993) looks at “government policy variables as causal factors affecting FDI.” Government policies create market imperfections that can both encourage and discourage FDI.

Strategic and Long-Term Factors

Reuber, Crokell, Emersen, and Gallais-Hamonno (1973) identified several important considerations that explain why FDI occurs. Their writing seems to capture ideas presented in other theories. Here is a summary of their points.

1. MNCs may wish to defend their market share in foreign countries and FDI seems to be an effective tool
2. The desire to gain access to a protected market or to secure access to a source of supply that may prove important for future production
3. The need to develop a parent-subsidiary relationship
4. The desire to inculcate a certain technology in a host country
5. There exists an advantage of complementing another type of investment
6. Cost savings by shifting production to other locations
7. Competition for market share in an oligopolistic environment

Theories on Modes of Entry

Modes of entry are implicitly included in other theories on FDI, but there are some theories that specifically address this issue. Principally, why does an MNC choose FDI over exporting or vice versa? Or, why still does it not engage in a joint-venture or licensing agreement? Also, if FDI is the final decision, should it take the form of greenfield investment or merger & acquisition?

Buckley and Casson (2000) describe fundamental differences between the three modes of entry. Exporting is located domestically and controlled administratively. Foreign licensing is foreign located and controlled contractually. And FDI is foreign located and controlled administratively.

On the question of licensing versus FDI, Moosa (2002:60) summarized scholarly opinions in this way.

<table>
<thead>
<tr>
<th>FDI VERSUS LICENSING</th>
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<tr>
<td><strong>FDI is preferred to licensing if...</strong></td>
</tr>
<tr>
<td>The host country is politically stable</td>
</tr>
<tr>
<td>The technology is new and tightly controlled</td>
</tr>
<tr>
<td>The firm is large and more internationally involved</td>
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<tr>
<td>The firm’s sources of power are broadly based</td>
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<td>The absorptive capacity of the licensee is low</td>
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<th>Licensing is preferred to FDI if...</th>
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<tr>
<td>The technology is diffused widely</td>
</tr>
<tr>
<td>The host market is small and risky</td>
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<tr>
<td>The firm is inexperienced, risk averse, and nationally-oriented</td>
</tr>
<tr>
<td>The advantage of the firm is specific</td>
</tr>
<tr>
<td>The potential licensee is big and capable</td>
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20 Moosa’s summary is based on the work of Baranson (1970), McManus (1972), Parker (1974), and Baumann (1975).
MNCs may also choose a joint-venture as their mode of entry. Buckley and Casson (1988; 1996) suggest three reasons for this decision; first, the possession of complementary assets; second, opportunities for collusion; and third, barriers to full integration.

Finally Lall and Streeten (1977) lay out five major factors for why large MNCs choose FDI over exports.

1. Because of production and export costs, FDI has cost advantages
2. Rising barriers to trade can make FDI more attractive.
3. Establishing a subsidiary better enables a MNC to service its customers.
4. In oligopolistic environments a move to FDI by one MNC will impel its competitors to do the same.
5. The product life cycle, looking for cheaper production, can also encourage FDI

UNCTAD’s World Investment Report 2005 sees this pattern in modes of entry. Greenfield investment is more typical when the industry involved requires technological skill for its production methods. Although the report states that “institutional, cultural, and transaction cost factors, in particular, the attitude towards takeovers, conditions in capital markets, liberalization polices, privatization, regional integration, currency risks and the role played by intermediaries (e.g. investment bankers) actively seeking acquisition opportunities and taking initiatives in making deals” are also influential (UNCTAD, 2005:9).

Why states want to receive FDI…

There are a number of reasons why a country would like to be the recipient of FDI. Jensen (2006:28-33) describes four, although his description is not unique21. The first and most important reason is the hope that MNCs will impart new technology to and enhance productivity in the host country. Jensen explains that these “technological spillovers” are particularly likely with companies that have high levels of R&D relative to sales, a large portion of technical and professional workers, new and technically

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21 See Blomström & Kokko (2003:9-16) and Graham & Krugman (1995:Chapter 3) for other explanations.
complex products, and high levels of product differentiation and advertising. Spillovers can take place in three directions: horizontal, forward and backward. Horizontal spillovers are when technology travels from the MNC to other firms in the same industry. Forward spillovers are when the technology is adopted by the firms that use the MNC’s products. Backward spillovers occur when MNCs impel their suppliers to improve their technology or productivity. Some ways that technology can diffuse to a host country are obvious. Joint ventures and licensing agreements explicitly reveal a MNC’s technological advantages. Spillovers can also occur by observation and by employees trained in a foreign affiliate who then work for a domestic firm. Jensen notes that empirical evidence supporting this phenomenon is mixed.

Graham and Krugman write that there is some evidence to support the occurrence of spillovers (1995:59). They point to the US auto industry that has adopted the Japanese just-in-time supply system and managerial methods. They do acknowledge, however, that the measurement of spillovers is “elusive.”

The second hypothesized advantage to a country receiving FDI is a boost in exports. Jensen explains that FDI tends to concentrate in export sectors and logically should add to a state’s exports and collection of foreign exchange. He argues, however, that the effect of FDI varies. FDI, per say, does not contribute to exports, but only FDI in export sectors. He compares FDI in Mexico’s auto industry, which increased exports, to FDI in Argentina, which largely provided for the domestic market. Furthermore, he mentions FDI in the oil and mining industries of Chile and Colombia. FDI there came in the form of acquiring ownership of extant mines, not establishing new ones. Oil and mine production had previously been exported, therefore the FDI contributed no new exports.

Increased employment is the third possible advantage of FDI. Affiliates of MNCs, of course, employ workers, who are the direct beneficiaries, but affiliates can also spur development of complementary business around it which provides further employment opportunities.

This employment creation element is often concentrated regionally. Multinationals invest in production facilities in specific locations, generating employment in the surrounding community. National governments recognize this and attempt to use incentives to channel multinational investment into areas that enjoy less economic development (Jensen, 2006:31).
The final advantage seen in FDI is its stimulation of economic growth. The explanation for this effect of FDI is simply the culmination of the previous three reasons. As technology is diffused the domestic companies become more competitive. Increased exports increase revenue and bring more foreign exchange to the country. Employment grows which allows the country to produce more. The end result can be nothing other than economic growth. Jensen referenced Intel’s investment in Costa Rica in the mid-1990s in which its investment of $500 million led to a doubling of that country’s exports and Intel is credited with over half of Costa Rica’s economic growth.

**Incentives: Where a MNC’s desires meet a country’s dreams…**

It sometimes becomes a ravenous competition for FDI among states. Mentioned earlier as part of government regulations, incentives are offered to improve the attractiveness of a country to a MNC. Incentives can be offered for a variety of reasons. One of which is to make up for disincentives like TRIPs. Other reasons include compensation for the MNC for weaknesses in the host country’s economy, such as limited infrastructure or country risk. But many think that the value of incentives has reached obscene levels. Blomström and Kokko, in a working paper for the World Bank, also charge “globalization and regionalization of the international economy” as another reason why incentive packages have become so important. They explain:

Trade liberalization – be it globally, through GATT or WTO, or regionally, in the form of EU, NAFTA, AFTA and other regional agreements – has led to increasing market integration and reduced the importance of market size as a determinant of investment location. Hence, even a small country may now compete for FDI, given that is can provide a sufficiently attractive incentive package (Blomström et al., 2003:2-3).

They further explain that trade liberalization and internationalization of capital markets has constrained national leaders in how they can make their countries attractive for investment. Most notably, gone are the days when exchange rate controls could alter the allure of a country. Consequently, their available instruments are fewer, thusly elevating the potential of incentives. Another reason why incentives have become more common
place is simply that other countries have employed them. The authors say that countries are drawn into a “subsidy game.”

Decision makers justify incentives using the same arguments used to argue for FDI. These incentives will bring the FDI that will introduce new technology, increase employment, stimulate growth, etc. According to the authors, incentives have, in the past, made little difference in locational decisions. They only entered the minds of MNC decision makers when they debate over very similar investment locations. But incentives’ costs - and importance - have become more significant in recent years. In addition to the effects of globalization and regionalization, MNC executives have become accustomed to receiving incentives (Blomström, 2003:5). The danger in this escalation of the role of incentives is that if competition for FDI devolves into who can offer the most copious benefits is a beggar-thy-neighbor situation where revenue is transferred from the host state to the MNC. They report that in industrialized countries22, the “subsidies per-FDI related job” frequently reach tens of thousands of dollars. They cite Portugal spending $254,000 per job for Ford and Volkswagen plants in Setubal as a particularly extreme example (Blomström et al., 2003:5). The other justification for offering incentives is to compensate the foreign affiliate for the spillovers it provides (Blomström, 2003:8; Ögütçu, 2002).

There is yet another explanation why FDI is so vigorously pursued with incentives: When FDI occurs, it usually receives much publicity, which demonstrates that the government is actively pursuing the betterment of the economy. At least this is the impression the governing authorities hope is received by the public (Blomström, 2003:17; Graham et al., 1995:89-90).

What the authors emphasize in their article is that incentives impose a cost on a country that may or may not be recouped by the foreign investment. The authors suggest that a government that wants to attract investment should pursue fundamental reforms, such as modernizing infrastructure, raise the level of education and labor skills, and improve the overall business climate (Blomström et al., 2003:20). Moreover, when incentives are considered, the government must have clearly in mind what results from

22 The authors noticed a difference in the kinds of incentives offered between developed and developing countries. In developed countries incentives usually are made up of financial incentives, including infrastructure improvements and job training. In developing countries incentives typical take the form of tax holidays and other fiscal measures. Developing countries avoid spending money from already scarce public funds (Blomström, 2003:5).
the FDI are expected. If the government wishes the FDI to impart positive spillovers then the government must be certain that the domestic companies are capable of adopting these new technologies and techniques. The authors write about the precondition of the “ability and motivation” of local firms to adopting new methods. If they are unable or unwilling to change then the incentives will have been wasted. They recommend that, if incentives are offered, simultaneously, efforts should be made to improve the “local learning capability” so that all spillovers can be maximally exploited (Blomström, 2003:19). They outline other risks with incentives as well. There is the perennial problem of “picking winners.” The government cannot be certain that a particular investment will provide spillovers that are in excess of the incentives offered. Also, if much of the incentives take the form of tax breaks, this could encourage a transfer of “profits and welfare from host countries to foreign multinationals” (Blomström et al., 2003:20).

The Organization for Economic Cooperation and Development (OECD) has pushed for more responsible incentive behavior. In a report entitled Checklist for Foreign Direct Investment Incentive Policies they encourage states to focus first on improving their business environment as the long term solution to their investment needs.

A large body of evidence shows that investors are principally motivated by the quality a host country’s enabling environment. Hence, policies to enhance macroeconomic stability, transparency, other elements of good governance, openness to trade, infrastructure and levels of know-how in the domestic economy are all more potent tools for attracting investors. FDI incentives may in many cases at most tip the balance in favour of one location among a group of economies that are perceived to have broadly equivalent enabling environments (OECD, 2003:10-11).

The report also states that “tax incentives, financial subsidies, and regulatory exemptions” are no substitute for improving the “enabling environment.” Furthermore, some forms of competition between countries can lead to a waste of economic resources and social costs (OECD, 2002:8).

A possible solution to the problem of incentives proposed by the authors is the establishment of an international rule-making body akin to the GATT/WTO. Such bodies already exist at the regional level. The European Union already imposes rules on the use of incentives between its member states. Similar competition takes place inside the US.

23 Relative tax rates has been a big issue as well for the members of the European Union. Ireland, for example, had a corporate tax rate of only 10%, but under pressure of other countries,
between states. The value of incentives offered at the state level has ballooned in the last few decades to the point that they are undermining a state’s ability to collect taxes (Brunori, 2005:89). Graham and Krugman recommend making illegal incentives granted by the states (1995:172).

**Conclusion**

As should be clear to the reader now, the theories concerning FDI are many and diverse. There are many economic reasons authors indicate as antecedents of FDI, but theories have changed over the years. No single theory has yet risen to preeminence above all others.

Other aspects of FDI have not been resolved definitively. Many see benefits from receiving FDI, such as a technology spillovers and increased employment. But others doubt just how profound these effects are. Finally the use of incentives to attract FDI remains controversial. They are widely and increasingly employed by countries but the investment they attract may not provide all the benefits the government hoped for. Some advocate the establishment of an international body to regulate FDI, and guard against such ‘Pyrrhic’ investment. The next chapter will present the current realities of FDI: their volumes, trends, and other controversial developments surrounding this form of international commerce.

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particularly France and Germany, raised it to 12.5% (Royal, 2000; WSJ, 2006).
The volume and participants of foreign direct investment (FDI) have certainly changed over the past few decades. The club of foreign direct investors was once dominated, virtually exclusively, after WWII, by US multi-national corporations (MNCs). Sixty years later the club has become much more diverse and FDI flows now measure in the trillions of dollars. This chapter will look at the most recent data showing the volumes and directions of FDI and will also present current concerns and trends regarding the practice, all the while paying special attention to America’s relationship to global FDI.

According to the 2005 World Investment Report, which reflects 2004 data and is the most recent from UNCTAD, FDI is back on the upswing. Global investment flows dropped significantly following record high in 2000 as the world economy went into a recession. From 2003-2004 Total FDI inflows increased 2% to $648 billions. This included a jump of 40% in inflows to developing countries, amounting to $233 billion. Global FDI outflows also rose 18% to $730 billion. The amount of actors involved in FDI has now reached enormous proportions. MNCs now amount to no less than 70,000 and their affiliates have grown to more than 690,000 in number (UNCTAD, 2005:xix).

In 2004 FDI inflows varied widely depending on the part of the world (See Figure 4.1). Although total inflows increased worldwide, for the developed countries their inflows continued to decrease. Inflows to developed countries fell by 14% to $380 billion. This continues a trend that started after inflows reached their peak in 2000. In fact, FDI inflows are only 30% of their 2000 level despite “economic recovery in many countries and subregions, returning investor confidence and improved corporate earnings” (UNCTAD, 2005:6). The decline was most significant for the European Union (EU), which fell to its lowest level of inward FDI since 1996. Four countries, however, made up almost all of this decline. Denmark, Germany, the Netherlands, and Sweden accounted for 86% of the EU’s decline.
Unlike Europe, the US attracted more FDI in 2004. In fact, the 2004 amount was three times the amount in 2003. According to the Bureau of Economic Analysis, in 2005 FDI inflows increased again, albeit slightly. FDI inflows to the US were $86.21 billion and $86.82 billion in 2004 and 2005, respectively (Hitt, 2006b). In 2004 the UK was the largest investor at $30.31 billion, up from $23.28 billion in 2003. Japanese companies also increased their investment from $1.02 billion to $3.56 billion. FDI in the US has truly achieved significant proportions. From 1985 to 2004 foreign investment in US hard assets, such as building and factories (not stocks and bonds) grew from $184.6 billion to $1.47 trillion. Today foreign owned affiliates employ 5.3 million and produce 21% of America’s exports (King, 2006). In 2004 foreign companies dispersed about $300 billion in wage and salary compensation, or about $60,000 per employee. Foreign affiliates are also widely attributed to improving productivity and efficiency in America.

The most dramatic increase of FDI inflows in 2004 was that to developing countries. The previously mentioned increase of 40% over 2003 affected all regions of the developing world except Africa. Asia and Oceana had the largest increase by sub-region. FDI inflows to Asia-oceana improved 68% to $148 billion. Latin America also grew at a significant pace: Inflows to Latin American and Caribbean grew 44% to $68 billion. Although FDI inflows to Africa were stagnant from 2003-2004, in the previous year FDI inflows grew 18%.
Just a few countries, however, attract a majority of FDI to the developing world. 60% of FDI, or about $140 billion, went to China, Hong Kong, Brazil, Mexico, and Singapore. On the other side of the developing world are the least developed countries (LDCs) which attracted only 3%, or $11 billion, in 2004. Although it is low relative to other countries, this is a record amount of FDI in LDCs. The 2005 UNCTAD report introduced “South-east Europe and CIS” as a new regional category. It is listed separately but should be considered part of the developing world. These former Soviet states account for 51% of all resource flows to developing countries.

As described in a chapter two, FDI is a flow, and for every inflow there must be an outflow. FDI outflows increased 18% and the vast majority came from developed countries. Over 87% of FDI outflows come from the developed world. Factoring in FDI inflows, developed countries are net exporters of capital by a margin of $260 billion. Most significantly, the US’s FDI outflows almost doubled in 2004. They increased by 90% to $229 billion, a record high. Canada and Switzerland also had large increases, 131% (to $47 billion) and 67% (to $25 billion) respectively. The EU, on the other hand, was a less generous source of FDI in 2004. Their FDI outflows diminished by a quarter to $280 billion. The developing world also saw their outflows expand in 2004. From a negligible amount in the 1980s, MNCs from the developing world invested $83 billion in 2004. Asian companies are especially responsible for the growth of FDI outflows from the developing world.

There were no big changes concerning the sectors into which FDI flows. The only noteworthy item is that FDI in the service sector did increase. Service enterprises accounted for 63% of all cross-border mergers & acquisitions (MA) in 2004, up 54% from 2003. One third of all MAs in services were in financial services. There is also continued interest in investing in the primary sector. Rising demand for various commodities prompted increasing investment in oil and mining, especially in Africa and Latin America.

Concerning modes of entry, MAs rose by 28% in 2004. Totaling $381 billion that year, the total value of MAs worldwide now comes to $2 trillion. The total number of cross-border deals increased 12% to over 5,100. UNCTAD offered this explanation for the increase:
In addition to low interest rates in major economies and rising corporate profits, the recovery of asset prices since 2003 (as reflected in the rise in stock exchange indices) contributed to the rise in MAs” (2005:9).

The largest MA in 2004 was the purchase of Abbey National, Britain’s sixth largest bank, by Santander Central Hispano, Spain’s largest bank, for $15.8 billion. Although in general MAs rose in 2004, they rose faster at a domestic and regional level than at a global level.

A few differences can be observed between MA activity in developed and developing countries. MAs rose 29% and 36% in developed and developing countries, respectively. But MAs are much more common in developed countries than in developing countries. UNCTAD attributed this to continuing restrictions imposed on foreign investors in developing countries.

Greenfield investment, the most common mode of entry, also increased in 2004. In 2003 9,300 projects were initiated while a year later 9,800 were begun. UNCTAD credits greenfield investment as the “key driver” behind the recovery of FDI (2005:10). Greenfield investment, however, is concentrated. Only eleven countries received more than 100 projects, and China and India host half of all new projects.

A few words should be said about how FDI is financed. As described earlier, FDI can be paid for in one or a combination of three ways: equity capital, intra-company loads, and/or reinvested earnings. The largest component of FDI finance is equity

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**What is the largest merger & acquisition ever?**

*Vodafone AirTouch PLC & Mannesman AG*

In the year 2000 the British company Vodafone purchased the German company Mannesmann to form the largest internet and mobile phone company in the world. Following government approval from the UK, Germany, and the European Commission, Vodafone spent a staggering $208 billion to acquire Mannesmann. Together their worldwide reach is enormous. They have 42 million mobile phone customers in Europe, the Americas, and Australia. Worldwide, they can boast 10% of all mobile phone users and they are the leading player in mobile internet connections. A Vodafone spokesman described the merger as “They are two strong businesses and together we can go from strength to strength.” No doubt this is true, but the merger came not without controversy. Some thought that Mannesmann, considered a “jewel of German industry,” was sold to a British company because of a “bribe” or “payoff.” Klaus Esser, Mannesmann CEO at the time, received a $19 million bonus in addition to a $15 million severance package after the deal was completed. To a German public sensitive about compensation paid to executives, these bonuses were of dubious probity. In 2003, Esser, and other executives were indicted with using the deal to personally enrich themselves. At the time of the writing the legal issues have not been resolved.

*Sources:* Walker (2003), Shishkin & Boston (2000), and BBC (2000).
capital. From 1995-2004 equity capital made up 58-71% of FDI flows with it accounting for a greater share during the recent decline in FDI. Over the past decade, equity capital has held similar importance for developing countries as that of the world average, although slightly lower. This might be changing however. In 2004 the share of equity capital dropped to only 29%.

The second form of equity financing, intra-company loans, averaged only 23% from 1995 to 2004. Unlike equity capital, intra-company loans are greatly influenced by difference in tax regimes between home and host country. Such loans depend on effective financial management on the part of the MNC as they navigate different tax regimes. UNCTAD presents this situation:

For instance if the interest on a loan is received in a low-tax home country but the interest payment is deductible (as cost) in a high tax country, [MNCs] can save on their global taxes by using intra-firm lending.

Finally, reinvested earnings provided a mere 12% of FDI financing from 1995-2004. Reinvested earnings, that is affiliates earnings not sent home as dividends, has, however, been volatile over those years. It dropped to as low as 2% in 2001 and in 2004 it reached 33%. They do appear to be growing in importance. For the past couple years, the yearly average was more than double the yearly average during the 1990s. Reinvested earnings are a more important source for MNC operations in developing countries. From 1995-2004 they averaged 30% and reached 36% in 2003. Many developing countries are reacting to this facet of FDI in their countries by introducing new fiscal incentives that encourage affiliates to reinvest their earnings.

UNCTAD identified several reasons for the recovery of FDI over the past couple years. These reasons are divided into macro, micro, and institutional factors. Among the macro factors is economic growth. In 2004 worldwide economic growth was 5.1%, the highest rate since the mid-1980s. UNCTAD states that increased economic growth typically helps a country to attract FDI. Another macro factor discussed was reduced country risk. Business and consumer confidence grew as the investment environment

\[24\] The Bureau of Economic Analysis describes equity capital in this way: “Equity capital increases and decreases. Equity capital increase consists of payments by parent companies to third parties broad for the purchase of capital stock or other equity interests when they acquire an existing business, payment made to acquire additional ownership of interest in their affiliates, and capital contributions to their affiliates.” Definition can be found at <http://www.bea.gov/bea/glossary/glossary_e.htm>.
was relieved of some political insecurity. For the US in particular, the weakening dollar was seen as a magnet for investment. The UNCTAD report states that FDI:

“may also have been driven by the weakening dollar, which made investment in the United States – and in other countries with exchange rates pegged to the dollar – less costly for foreign investors” (2005:10).

This effect on FDI, according to the report, was witnessed before during the 1980s dollar weakness. This situation attracts “efficiency seeking FDI.” Companies will want to establish a presence in the US because exports from the US will appear cheaper for foreigners.

There are several micro factors that have aided the recovery of FDI. Improving corporate profitability, especially in developed countries, is one factor. Stock markets across the world also have enjoyed improved performance. Forty eight of forty nine major stock exchanges showed rising share prices in 2004. Finally, rising commodity prices, especially oil and gas but also some other raw materials, has drawn in investment, especially to African and Latin America.

The final set of factors is institutional factors. In previous years privatization was a significant factor but that process has been slowing in recent years and provided only a moderate influence in 2004. Private and institutional equity investors, on the contrary, have become a more important source of funds. These private investors, that is not the MNC itself, provided 28% of the funds for all MAs. Liberalization in the real estate sector of many countries also contributed to the recovery of FDI. MA in real estate tripled to $30 billion in 2004.

Although FDI seems to be growing there are many concerns about its affect on the country to which it flows. Some of this concerns focus on how the behavior of foreign affiliates affects the host country’s national security, especially in America. Two recent proposed MAs received a lot of media coverage and debate over their national security implications played out on a nationwide stage. In 2005 concern erupted over the proposed purchase of UNOCAL, an American oil company, by the China National Offshore Oil Corporation (CNOOC). Many worried that CNOOC, controlled by the Chinese government, could imperil America’s national security by taking control of UNOCAL’s oil resources. CNOOC, all the while, was only concerned about UNOCAL’s technology and experience in the South China Sea where many experts think vast oil
supplies are located. CNOOC even offered to buy only UNOCAL’s foreign assets and leave US assets available for others to purchase. Furthermore, CNOOC offered, by far, the largest amount for buying UNOCAL. The Chinese company offered $18.5 billion for the company, the next highest bid was from Chevron who could muster only $2 billion. Amid the political controversy and media firestorm CNOOC withdrew their bid (Schwartz, 2005).

The second well known case of foreign investment arousing national security concerns was the 2006 Dubai Ports World (DP World) attempted to take over management of six US sea ports. DP World spent $6.8 billion to purchase Peninsular & Oriental Steam Navigation Company, a British company already in charge of managing ports. If the deal had gone through, DP World would take over management responsibilities of ports in New York, New Jersey, Baltimore, New Orleans, Miami, and Philadelphia. Many charged that, in the age of the war on terror, that the security of our ports cannot be trusted to foreigners, even though the previous management was British. Others made the distinction against particular countries. Senator Charles Schumer, D-NY, proposed legislation that would bar companies from countries which recognized the Taliban government in Afghanistan from 1996-2001 from managing ports. Those who did not share concerns over national security charged that the controversy over the deal was primarily political. Others made the more serious charge that suspicion of the United Arab Emirates company was racially inspired. After all, DP World has control ports in several countries and has a good reputation (Schwartz, 2005).

These two controversies, and others as well, have helped to prompt increasing attention on the Committee on Foreign Investment in the United States (CFIUS). CFIUS is the government agency that investigates foreign investment and makes recommendations to the president based on the economic or national security implications of a given deal. Its history can be broken down into three phases. CFIUS was created by the Exxon-Florio amendment during the Ford administration. It was a response to the growing wealth in Arab countries from the rising oil prices. As these petrodollars were being reinvested in the United States, lawmakers became concerned about the activities of these newly rich Arab businessmen. Among other proposals, CFIUS was created as a compromise to address this concern. The second phase in its history came in the mid-1980s. As the dollar weakened the US became more and more a
target for FDI from Japan. As a result of the jump in Japanese investment, what some termed a ‘fire sale,’ in 1988 CFIUS’s investigatory powers were strengthened, especially with regards to national security issues. The final phase came in 1993 when CFIUS was legislated to look into all instances of FDI by foreign, government owned companies. Since 1988 the committee has received 1600 notices of investment. Many proposed deals have been withdrawn as soon as it became know that CFIUS was investigating. The recommendation to the president to prohibit an investment has been carried out only once. In 1991 a Chinese company was barred from investing in America.

But CFIUS could be entering a fourth phase as lawmakers are again contemplating empowering its oversight abilities. There are two bills, one in the Senate and the other in the House, that will do just that. Both bills would extend the amount of time for investigation allotted to CFIUS from 30 to 40 days. Both would also require more cabinet level involvement during the approval process and increase disclosure requirements to lawmakers. The House bill, in contrast to the Senate bill, would require notification of a certain proposed deal only after the investigation is over. The Senate bill, sponsored by Banking Committee Chairman Richard Shelby, R-AL, requires notification of lawmakers about the deal as soon as the investigation begins. The Senate bill also contains a requirement for the administration to compile a list of countries’ compliance with the war on terror and nuclear non-proliferation issues, and factor in that cooperation in the war on terror to proposed investment deals. A related measure in the House, from House Armed Services Chairman Duncan Hunter, R-CA, would bar foreign firms from holding critical infrastructure, including roads, bridges, and ports.

Critics of these bills, especially the Senate bill, say they threaten “wholesale politicization of investment approvals” (Holtz-Eakin, 2006). Furthermore, a longer period for investigation means a longer delay for foreign companies and could disadvantage them compared to other potential investors. Also, the uncertainty of the approval process reduces the attractiveness of the US economy and could dissuade investors from even considering investment. What these bills amount to, in the view of many, is protectionism from foreign involvement in the American economy. And many fear actions like this will impel other countries to raise restrictions. In fact, such has already occurred:
…restrictions and caveats imposed by the US could be adopted by foreign
governments against American companies seeking to invest abroad. There is
already evidence that this is happening. Last year Indian telecom company
Videsh Sanchar Nigam Ltd. agreed to a range of US government-imposed
management and shareholder restrictions when it acquired Tyco International
Ltd.’s fiber-optic cable unit. VSNL then pushed the Indian government to apply
similar restrictions on foreign investors entering the Indian telecom market”
(King, 2006).

If such restrictions proliferate the global economy will suffer. Such impediments to
international investment would only compound the problem of diminishing commitment
to free trade, as evidenced by the break down of the Doha round of trade talks.

Douglas Holtz-Eakin, former director of the Congressional Budget Office, wrote
an op-ed in the Wall Street Journal about these very bills. In his article “You can’t be
CFIUS” he acknowledged the need to prohibit some kinds of FDI that affect national
security. He thought that the approval process must be kept away from Congress. He
recommended adjusting the rules that govern CFIUS by executive order. He wrote, “we
need presidential leadership, and no more interference by Congress.”

Graham and Krugman (1995) also outline a number of other perennial concerns
with regards to FDI in the US. Some contend that FDI can harm employment, worsen
trade deficit, bias US production to inappropriate activities, shift R&D to an affiliate’s
home state, and/or US firms will be placed at a strategic disadvantage by America’s
openness. Each of these concerns will be addressed in turn.

FDI can be a boon or bane to employment, depending on who is asked. Those
that support FDI point to the large factories or office buildings that are constructed and
use the hundreds or thousands employed as evidence of FDI being a catalyst for increased
employment. FDI’s detractors, however, argue just the opposite. Those large factories,
they say, import much of their supplies, certainly more than a domestic firm, so the net
effect is less demand for US made items and lower employment. Graham and Krugman
(1995:62–62) conclude that the “net impact of FDI on US employment is approximately
zero.” They claim that employment is more closely tied to changes in monetary policy
and supply of labor than changes in demand. A related argument is that FDI may rid the
US of high paying jobs, leaving only low wage positions. A scenario presented in their
book was a foreign country that wants to keep all high paying jobs inside its borders.
Consequently, when their MNCs invest in the US, they set up operations that offer only
low wage jobs. Graham and Krugman, however, counter this concern in two ways. First,
they state that there is no empirical evidence that this is taking place. And second, the US
government could react by employing some kind of industrial policy to attract the kinds
of jobs it thinks America needs.

FDI is also feared to increase the US trade deficit as foreign affiliates are thought
to import their needed materials more than buy them from domestic firms. The authors
admit that there is evidence that foreign affiliates do tend to import more than their
domestic counterparts, but their activity does not necessarily affect the trade deficit.
They say that the trade deficit is determined by macroeconomic variables like savings
and investment rate. Only if somehow FDI can affect those variables could FDI be
charged with worsening the trade deficit. Otherwise, if America is inundated with foreign
affiliates who commence mass importation of material, the US dollar will begin to drop
in value which will make imports more expensive and exports more attractive. Graham
and Krugman give little credence to this concern.

The next concern asks whether technology is shuttled from the host country to the
home country. The so called “headquarters effect” sees that instead of FDI introducing
new techniques and technology into a host country, it instead purchases indigenous
technology and relocates them to the home country. This would be especially damaging
if it is R&D activities that are sent “home.” Graham and Krugman cite several studies
that attempted to examine this effect. Different studies produced different results, but the
authors seem to agree with findings that show R&D facilities are set up in all major
markets.

The final concern about FDI is whether America’s openness to foreign investment
makes domestic firms vulnerable. Worry about domestic firms’ ability to compete
springs from an application of strategic trade theory to FDI. If economies of scope are
relevant to a certain industry, then a foreign affiliate may have an advantage over its host
country competitors if its home country places significant restrictions on FDI. Such a
situation could possibly be identified. Japan, while a large exporter of capital, is at the
same time very protected from outside investors. Such an effect is difficult to observe
empirically, however. Since its introduction, strategic trade theory has received much
theoretical criticism, and this presumably weakens any explanatory power it may have for
FDI. Also, as Graham and Krugman wrote, “It is hard to believe that the strategic
disadvantages of US multinationals are a major drag on the US economy or will be anytime soon” (1995:67).

Thought on FDI does not dwell solely on how FDI can harm an economy, but there is much consideration to how FDI can improve a country’s economy. Two countries in particular, China and India, have elicited such a discussion and represent another contemporary concern in FDI. Much of China’s and India’s economic growth is attributed to the massive inflows of FDI. But much of the discussion regarding these two countries also touches on how FDI to these countries can be detrimental to other countries: namely employment in developed countries suffering from ‘out-sourcing.’

A survey of MNC CEOs conducted by ATKearney\(^{25}\) clearly shows the importance both India and China have in international business. Their survey, administered in October 2004, gathered data on many aspects of foreign investment. One of the results of their survey, and which also provides the title of their annual report, is a FDI confidence index. This index shows which countries are the most attractive to foreign investors. Occupying the first spot is China, followed by the United States. Closely behind the US, is India, which increased its position three spots from 2003 to 2004. The survey also reveals that India and China fill the top two spots on a number of other rankings. They rank one and two for most positive investor outlook, likely first-time investments, and most preferred offshore investment locations for business processing functions and IT services (ATKearney, 2004:4). China and India are also the most attractive investment locations in both the short term and long term and rank highly for medium term investment (beating Brazil, Mexico, and Poland). But the two differ in the kinds of investment they attract. Manufacturing enterprises tend to build in China, while

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\(^{25}\) ATKearney is a global management consulting firm. Their survey was administered to “senior executives of the world’s 1,000 largest corporations.” These senior executives consisted of CEOs, CFOs, board members, and senior corporate strategists from 35 countries and 20 specific industries.
IT, business processing, and R&D gravitate to India. The chart below reports MNCs’ attitudes towards these two countries.

4.3 FDI Attributes: China and India

China, however, is far and away attracting more FDI. In 2004 China attracted $53.5 billion and India attracted only $4.3 billion. Both countries, however, represent long term challenges to the US and other developed countries.

These two countries are often the target of opprobrium from American commentators complaining about the effects of ‘out-sourcing.’ Out-sourcing is when a company takes production of certain products or rendering of services that had hitherto been done in the home country, and moves them to another, usually a lower cost country in the developing world. From both sides of the political spectrum one can find disgruntlement about apparent increasing loss of American jobs to lower cost countries. Even members of the pro-business Republican Party can be found to criticize the free flow of capital.

A self-described Republican, Lou Dobbs hosts a popular news show on CNN, and epitomizes popular frustration with ‘out-sourcing.’ He sees businesses as having a
responsibility not only to its investors and shareholders, but also to its employees, communities, and country. The very first paragraph of his book encapsulates his entire argument.

The power of big business over out national life has never been greater. Never have there been fewer business leaders willing to commit to the national interest over selfish interest, to the good of the country over that of the companies they lead. And the indifference of those business leaders to our long-term national welfare is nowhere more evident than in the exporting of American jobs to cheap overseas labor markets (Dobbs, 2004:1).

This exporting, to Dobbs, is “one of the biggest problems facing the United States today” (2004:27). He worries about where out-sourcing will end. He worries about what America will produce in the future and what it will export if America continues to lose “high-quality” jobs. He attributes the problem to corporate greed, complicit politicians, and economist’s “ecclesiastical” commitment to free trade and free movement of capital. None of them sees the danger to “our economy, our jobs, and our way of life…” (Dobbs, 2004:28). One piece of evidence he cites, and is relevant to the paper, is that employment in the US auto industry has dropped by 200,000 over the past four years, while the amount of auto parts imported from China has doubled (Dobbs, 2004:10).

This critique is echoed in a more general and academic way in work of the oft cited David Harvey. A neo-Marxist in orientation, Harvey sees that capital mobility and foreign investment turn labor and the environment into commodities to be bought and sold and manipulated. In his book on the neoliberal development model, he wrote:

In the event of a conflict, the typical neoliberal state will tend to side with a good business climate as opposed to either the collective rights (and quality of life) of labour or the capacity of the environment to regenerate itself…. [This] arises because, in the event of a conflict, neoliberal states typical favour the integrity of the financial system and the solvency of financial institutions over the well-being of the population or environmental quality (Harvey, 2005:70-71).

Arguments like these are found in other circles as well. In addition to neo-Marxists, anarchists, environmentalists, labor advocates, and others raise similar concerns. Organizations like Green Peace, the AFLCIO, and others make such arguments.

FDI remains controversial as the issues discussed in this chapter should show. The volume of FDI flows shows how important they are to the global economy and how such concerns can be fueled. One industry aptly captures many of the ideas that have
been discussed in the last two chapters. The auto industry in particular has become a conspicuous participant in international capital flows. The next chapter begins the second part of this paper which will focus on the auto industry. It will introduce a set of theories that explain where foreign automakers settle when they invest in America. The next chapter will also discuss why states desire auto FDI and how they compete for it.
Part II

Automotive Foreign Direct Investment
in
The United States
"What’s good for General Motors is good for America,” said Charles Wilson at a Senate hearing in 1995. That quote is certainly well known, but its veracity these days may be dubious. If a couple words were changed, however, it would suitably describe the behavior of many states in America. Substitute ‘Toyota’ for ‘General Motors’ and ‘Tennessee’ for ‘America’ or ‘Honda’ for ‘General Motors’ and ‘Ohio’ for ‘America’ and one can begin to understand the frenzied competition among states for auto investment. Large car assembly plants can provide a huge boost to a state’s economy and they do so in several ways. The immediate benefits are several thousand new jobs and millions of dollars in tax revenue. But, because auto manufacturing also involves heavy doses of technological know-how they can introduce new technologies to states and succor cutting edge sectors of the economy (read spillovers). In this chapter, several things will be discussed. First, what makes auto investment so prized after will be described. After that will come a brief description of how investment deals are negotiated between foreign automakers and state governments. Next will come a review of the ‘theories of auto investment,’ if it can be described as such. This will look at the predominant explanations for why foreign auto plants have located where they have. The final section will be a closer examination of one of foreign auto makers’ possible location criteria: the controversial use of incentives.

The reasons for states wanting auto investment, whether foreign or domestic, are myriad. The immediate result is a jump in employment and tax revenue with the introduction of an auto assembly plant. Just a few examples should make this clear. In terms of employment, an assembly plant can employ several thousand people under one roof. When BMW opened a plant in Spartanburg, South Carolina in 1994 it employed 4,000 workers (‘BMWGroup’, 2006). When Nissan opened its plant in Canton,
Mississippi in 2003, it employed over 5,000 workers (“NissanNews”, 2006). These figures are all the more important because they typically occur in rural, economically depressed areas. The state governments have endeavored to direct investment not to the metropolitan areas, but to rural towns. Typically rural areas in a state suffer from the highest unemployment and worst economic conditions, and a new plant can virtually cure its economic ailments overnight. In the case of Mississippi, the state’s manufacturing sector was suffering serious decline. In the year prior to Nissan’s investment the state had lost 103 manufacturers and their 10,000 jobs (Liu, 2003). The final location ended up being in Canton, which in the year 2000 had a population of slightly under 13,000\textsuperscript{26}. The plant itself employed 5,000 people and thousands others at the plant’s parts suppliers. Locating in rural areas is typically favored by the companies themselves, as will be described presently.

Increased tax revenue is also another prime attraction. In 1997, Toyota in Kentucky spent $1.7 billion on payroll and parts from Kentucky vendors, and other local consumption expenditures. That translated into an estimated $103.7 million in state income taxes for that year and cumulatively, since 1986, $571.4 million in revenue (Haywood, 1998). Honda in Ohio is another example of a tax revenue gold mine. Since 1979, the state of Ohio has collected over an estimated $1 billion in taxes from Honda’s direct spending, profit, and employees’ incomes and spending (Levin, Driscoll & Fleeter, 2004:34). Taxes can also be specially directed for particular uses. In negotiations with Texas for a new truck plant, Toyota agreed to pay $34 million in taxes voluntarily to Southwest School District in San Antonio (Pack, 2003).

But what makes auto investment so attractive is not just the initial investment, even though it is considerable, but is the ‘multiplier effect’ that is uniquely prominent for the auto investment. The ‘multiplier effect’ captures how a large investment, like a large auto plant, will be a catalyst for other job creation. Other businesses will spring up in the area to serve the plant. Parts suppliers are the most obvious example but so too could be counted restaurants, construction of new homes, and transportation as some of the consequences of an auto plant’s multiplier effect. The Center for Automotive Research has calculated the multiplier effect of the auto industry as a whole to be 7.5. This means

\textsuperscript{26} The source for this figure is \textless www.city-data.com\textgreater.
that for every one auto job that is created, 7.5 other jobs will be created in the local vicinity (Hill et al., 2003:7). It is the largest of all manufacturing enterprises.

A quick look at an actual instance of investment will demonstrate just how profound an effect winning auto investment can have. First of all, foreign auto affiliates have so far been, for the most part, very successful. This has enabled them to add to their initial investment, in ways such as adding another production line in the plant or building more facilities in the area. These additional facilities and concomitant employment only accentuate the multiplier effect. The case of Toyota in Georgetown, Kentucky illustrates this well. When the plant first opened, it was estimated that that state would get a 25% return on its incentives investment (Yemma, 1988). A report that has been periodically updated by Professor Haywood (1998), of the University of Kentucky, has demonstrated how the Blue-grass state has gotten even more. When the plant first opened in 1986 it was projected to employ between 3,000 and 3200 people. In 1997 it employed 7,689. In 1986, payroll was projected to reach a value of $90 million. Eleven years latter, employees received $470.4 million plus benefits worth $125.6 million. In 1986 the initial investment from Toyota was $800 million. By 1997, Toyota’s total investment in Scott County was over $4.5 billion. The plant’s multiplier effects were also remarkable27. In terms of employment, from 1986 - 1992, the auto plant created 17,883 jobs in the community.

Securing such profitable auto investment deals usually happens under a veil of secrecy. The times and locations of meetings between state officials and company officials are typically kept confidential. Sometimes, every effort is made to keep the fact that a state is pursuing auto FDI from public knowledge. But a few things can be said about the process. First contact can be made by either party. In the case of Honda investing in Ohio, it was then Governor James Rhodes who, upon hearing that Japanese companies were investigating whether to invest in the US, reached out to them (by way of surprise visit to Japan) (Rhodes, 1990). But foreign companies can also make the first move by notifying several states that it is interested in finding location opportunities. This was the case with Nissan and their search which eventually led them to Canton (Firestone, 2001). Once mutual interest is acknowledged, more specific steps are taken by both sides. First the state will draw up a list of proposed sites, and this is usually done

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by city councils, which in many states can meet privately when discussing economic development, and state development offices, such as the Cabinet for Economic Development in Kentucky (Royal, 2000). Once company officials have a collection of proposed sites they personally inspect the locations. This is often done with utmost discretion. Officials will sometimes visit unannounced, even checking into hotels under false names on the opposite side of town (Royal, 2000). The companies, especially Japanese companies, may then send out questionnaires to city officials in the proposed locations. They attempt to get an intimation of community attitudes towards work, unions, education and other topics. The questionnaires are usually quite elaborate, and can be as long as twenty pages. Next personal interviews may take place. Especially popular with the Japanese, these interviews typically are not about economic matters but company officials inquire about local officials’ families, hobbies, recreational interests and other aspects of locals’ personal lives. To Japanese companies, a friendly reception is very important. Not only do they want to make sure their companies will be compatible with the local population, especially with regards to their management style, but they also worry about other issues.

Older Americans may remember the Second World War and do not want the Japanese running the community’s largest business. Defenders of small-town life may oppose a plant that would require the community to expand (Rubenstein, 1991:140).

Other social issues can be worrisome for foreign investors. Before the Mercedes plant opened in Vance, Daimler board members asked Alabama state officials what “Klan activity is like” there (Maynard, 2003:207). But there are several other important factors that go into a company’s decision to invest in a certain state, in addition to local attitudes. Once a company has narrowed down its choices, the finalists are typically made public. It is at this point that incentives are discussed (Hill et al., 2003:7). From beginning to end, negotiations can take months. Language difficulties can also slow the process (Rhodes, 1990).

The locational pattern exhibited by foreign auto companies has been explained by many authors. They amount to ‘theories of foreign auto investment.’ Past examples of auto FDI have inductively lead to a set of theories that explain the key factors in deciding location. The degree to which a single factors is satisfied by a particular location cannot
alone prompt investment. Each factor must be present and attractive in some way, although the quality may vary. Nevertheless, each factor is considered, to some extent, a necessary, although not sufficient, cause of FDI. Also, all of the factors that will be described do remind one of general theories on FDI discussed in the literature review section of this paper.

The first factor important to making a location decision is location. It sounds tautological, but simply the physical location is important. Specifically, how close is it to the market and would there be issues with shipments from suppliers are concerns that must be addressed. Alaska and Hawaii are obviously ill-located, and so too are Maine, Montana, and many other states. In the cases of Alaska and Hawaii, for example, the transportation costs alone would be prohibitive. Access to the market is primarily what location brings, and many states are handicapped simply by where they are positioned. States in the Midwest and South are well situated and have good transportation infrastructure. As a matter of fact, they are within a 24 hour drive of 75% of the market (Ward’s, 1990). A sub-factor of location would be the quality of infrastructure, highways and railroads. As long as a state has a good transportation infrastructure and is in a good location it must be considered attractive for investment. Within the state, auto investment tends to cluster near main highways. Some highways have been particularly attractive, notably I-24, I-71, I-74, and I-75, which runs from Michigan to Tennessee and has attracted so many Japanese suppliers that it is frequently called the “Kanban Highway,” kanban being the Japanese term for the just-in-time delivery system (Rubenstein, 1991:137). It has been reported that Japanese government officials once instructed Japanese firms where to invest in the US. This lead states to become fiefdoms of different Japanese companies. The rationale was that it was not advantageous for Japanese companies to compete against each other for labor and suppliers (Rubenstein, 1991:134-135). This seems to not be the case any longer with multiple Japanese firms operating in Alabama and Indiana, for example.

Foreign companies are also very concerned about labor quality, and in particular about labor union activity. Foreign companies want to avoid the entanglements of labor negotiations and contracts, and the assumed higher costs of doing business, by moving to states and areas within them where labor union affiliations and sympathies are weak (Hill et al., 2003:5; Rubenstein, 1991). This is most often used to explain investment in
southern, right-to-work states like Alabama, Georgia, and Mississippi. But, foreign companies have also invested in Rust-Belt states, such as Ohio and Indiana, where union activity is relatively high. The explanation why labor mobilization has failed to materialize in these plants is the plants location in rural areas.

Japanese firms also choose rural sites in order to avoid existing concentrations of industrial workers in general and automotive industry workers in particular (Rubenstein, 1991:137).

This quote captures another widespread explanation of transplant location: they avoid industrialized states. Lack of previous industrial development, and auto plants in particular, also could explain FDI the attractiveness of the South. The South in general is much less industrialized than Northern states, and when the foreign companies first invested in states like Alabama they were the first auto company to set up shop there (Hill et al., 2003:6).

This explanation should be tempered somewhat. The explanation that a vacuum of manufacturing development can draw in foreign automakers should not be overemphasized. Foreign companies may not necessarily want a state without any auto manufacturing experience. When Hyundai was looking at investment possibilities in Michigan and Alabama one of the key pieces of information they looked for was whether there is a good supply of “trained and experienced automotive technicians” (Carty, 2006). They eventually decided on building their tech center in Detroit. Even with the rural qualification, foreign investment in Ohio, Indiana, Michigan, and Illinois is difficult to explain. The case of Ohio and Honda will be discussed in a later chapter.

Wage rates are another important factor to firms investigating labor. Another explanation for FDI in the South is their typically lower wage rates, and states in fact advertise this fact. Comparing wages paid in Alabama and Ohio reveals a disparity.
ENOUGH ABOUT EMPLOYEE BENEFITS. WHAT ABOUT EMPLOYER BENEFITS?

Virginia manufactures pay the lowest workers compensation rates in the country.

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In 2004, the average annual wage paid in private manufacturing in Ohio was $47,506\textsuperscript{28}. In Alabama it was $39,581: almost $8,000 less. In a factory of 3,000 workers that is a savings of almost $24 million every year. Although the number is significant, the effect should not be overestimated. When comparing the average annual wage for those employed in “Motor vehicle manufacturing,” as classified by the Bureau of Labor Statistics, however, the differences between North and South are anything but consistent. Looking at the graph below shows some unexpected numbers. Of the selected states\textsuperscript{29} Illinois was the lowest and Kentucky was the second highest. Furthermore, no discernible pattern can be seen between Northern and Southern states. Although specific wages rates from each company could not be found, it is know that foreign automakers have abrogated some flexibility with their wage rates. Their wage rates, are loosely pegged to the wages given to workers in American owned, unionized auto assembly plants. This is done to minimize the threat of union mobilization. Therefore there is no clear difference of wage rates between North and South states. If comparative wage rates are important, it is with regards to their affect on suppliers. Unlike in assembly plants, there is a marked difference in wages between unionized suppliers and non-unionized foreign suppliers (Hill et al., 2003:5).

Hill and Brahms (2003) in their report for the Center for Automotive Research offer another explanation for FDI location. They see that market share and population growth have encouraged FDI to locate in the south as opposed to the north. They cite

\textsuperscript{28} Wage rates are reported by the Bureau of Labor Statistics. They can be found at: <http://data.bls.gov/cgi-bin/dsrv?en>

\textsuperscript{29} These statistics reflect wages from both foreign and domestic car manufacturers. These states were chosen because they have been mentioned in other parts of this paper and all of them have received auto FDI. Statistics for other states are available but they either reflect only Big 3 investment or there are not car assembly plants in the state which would taint any comparison. The heading “Motor Vehicle Manufacturing” corresponds to NAICS industry code 3361. This data can be found at <www.bls.gov/cew/cv04sect2133.pdf>
declining vehicle registrations in the North, from 17.5% to 16.9%, and increasing registration in the South, from 18.3% to 18.8%, over the period of 1998-2001 (2003:2-3). They also say that population growth in the South has helped.

Due to these demographic shifts and the high cost of shipping motor vehicles, the demand to add more regional assembly plants – and the jobs that go with them – is likely to remain high in the south – to the detriment of the traditional automobile states in the North.

The author does not find this argument very compelling. First of all, most of the cars produced in these plants are being sold in other parts of the country or being exported. Also, this does not explain engine facilities, such as Toyota’s and Volkswagen’s in Alabama who ship their products elsewhere to be installed in cars.

The final factor that is regarded as an important influence on location decisions deserves special treatment. Incentives are an increasingly used and controversial device for attracting investment. They are given to multiple industries, not just the auto industry, and are given to both foreign and domestic companies30. But the enormous proportions they have reached in recent years have brought much scrutiny to the practice. After all, one should expect some attention when a state, like Texas, doles out over $150 million to a company like Toyota (Hawkins et al., 2006).

Incentives, however, are not a check to a company, or simply a waiver of a specified amount of taxes. The incentives that states offer are composed of several components. They include tax breaks; “dirt-cheap” land; infrastructure improvements such as new roads, highways, and sewer and water facilities; government paid worker recruitment and training; free university consulting services; and “even promises of quick approval of membership for top executives in prestigious country clubs” (Ward’s, 1990). Some incentives are direct and specific to the company. Tax breaks and worker training

30 Some have argued that foreign automakers receive more in incentives than domestic automakers. This is not true (Ward’s, 1990). Domestic companies, like Ford and GM, also receive sizable incentives for new investment. But sometimes states offer incentives to simply keep the plants open. GM in 2005, for example, was offered 60% tax abatement on equipment and machinery to keep plants in Northeast Ohio open (Grant, 2005). Sometimes millions of dollars in incentives are not enough to help cash-strapped American automakers. Ford was offered over $100 million in incentives to retool is plant in Hapeville, Georgia. But, even with such incentives, it was not certain that Ford would be able to afford to operate the plant any longer (Woods, 2006). In 1992, GM tried to extort Michigan and Texas. They announced that they would have to close either their plant in Ypsilanti, Michigan or their plant in Arlington, Texas. Michigan refused to give any tax breaks or other incentives, but Texas offered GM $30 million in tax abatements. Michigan lost 4,000 jobs (Carty, 2006).
would be good examples. Other incentives are indirect, such as infrastructure improvement. Although these improvements would not have occurred without the auto investment, people not affiliated with the company can use and benefit from a new highway, for instance. But it is the value of the incentives that make them a hot topic. Below is a table of recent investments including figures for the total value of the investment, the number of jobs that will be created, the value of the incentives, and finally the ‘price’ of the job, or the amount of incentives per job created.

<table>
<thead>
<tr>
<th>Owner</th>
<th>State</th>
<th>City</th>
<th>Year</th>
<th>Value</th>
<th>Employment</th>
<th>Incentives</th>
<th>Price/Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIA</td>
<td>Georgia</td>
<td>West Point</td>
<td>2009</td>
<td>1,200,000,000</td>
<td>2,500</td>
<td>409,000,000</td>
<td>163,600</td>
</tr>
<tr>
<td>Honda</td>
<td>Indiana</td>
<td>Greensburg</td>
<td>2008</td>
<td>550,000,000</td>
<td>2,000</td>
<td>85,500,000</td>
<td>42,750</td>
</tr>
<tr>
<td>Toyota</td>
<td>Texas</td>
<td>San Antonio</td>
<td>2006</td>
<td>800,000,000</td>
<td>2,000</td>
<td>133,250,000</td>
<td>66,625</td>
</tr>
<tr>
<td>Hyundai</td>
<td>Alabama</td>
<td>Montgomery</td>
<td>2005</td>
<td>1,100,000,000</td>
<td>2,000</td>
<td>252,800,000</td>
<td>126,400</td>
</tr>
<tr>
<td>Nissan</td>
<td>Mississippi</td>
<td>Canton</td>
<td>2003</td>
<td>1,430,000,000</td>
<td>5,300</td>
<td>468,000,000</td>
<td>88,302</td>
</tr>
<tr>
<td>Toyota</td>
<td>Alabama</td>
<td>Huntsville</td>
<td>2003</td>
<td>220,000,000</td>
<td>500</td>
<td>29,000,000</td>
<td>58,000</td>
</tr>
<tr>
<td>Honda</td>
<td>Alabama</td>
<td>Lincoln</td>
<td>2001</td>
<td>400,000,000</td>
<td>1,500</td>
<td>158,000,000</td>
<td>105,333</td>
</tr>
</tbody>
</table>

Certainly it becomes clear that when a state spends over $100,000 per job, many can be upset. These incentives have had repercussions.

Incentives have been known to end political careers if they are perceived to be too generous. Alabama Governor James Folsom brought Mercedes to his state. It was the first foreign car company to build in Alabama – but it came at the cost of $253 million in incentives. It was the biggest incentives package ever offered at the time and it became a political issue during the gubernatorial race in 1994. His opponent Forrest ‘Fob’ James, Jr. used Folsom’s fulsome incentives package to question his prudence as a governor (Murphy, 1999). During the campaign James even threatened legal action to force the withdrawal the benefits given to Mercedes (Gepfert, 1995). Folsom lost the election, but the policy of offering large incentives to foreign car companies in Alabama nevertheless continued. In fact, in other states the incentives offered now dwarf the amount given to Mercedes. In Alabama, Mercedes has since been joined by Honda and Hyundai with car assemblies and Toyota and Volkswagen with engine plants.

Alabama’s beneficence has remained a salient issue in state politics. In 2000, 619 companies earned $850 million in profits and paid not one penny in state taxes. Governor Siegelman, who was responsible for enticing many companies to his state, worked with the legislators to close tax loopholes. As a result, incentives became a campaign issue once again.
The issues of incentives to the car industry, although its implications could have been far broader reaching, became a legal issue that reached as high as the Supreme Court. In 1998 DaimlerChrysler and the City of Toledo and the State of Ohio agreed upon a deal where the car company would be exempt from local property taxes and receive credit on state franchise taxes contingent on the expansion of a Jeep assembly plant. Some local residents, however, considered this an unwise use of public funds. Charlotte Cuno and seven other residents of Ohio and Michigan sued the city, the state, and DaimlerChrysler over the $280 million incentives for the $1.2 billion Jeep plant. The group claimed that these breaks will deprive the local schools of $13 million which may end up causing nine schools to close and 380 teachers to be laid off (Carty, 2006). The basis of their legal case was twofold. First, the taxes they personally paid would have to be increased to make up for drop in taxes paid by DaimlerChrysler, creating for them a “disproportionate burden.” And second, such tax incentives violated the Commerce Clause\(^{31}\) in the Constitution because it impinged on state competition for investment.

Their case was heard by three courts. The District Court for the Northern District of Ohio was the first to hear it. They ruled that there was no violation of the Commerce Clause by either the property tax waiver or franchise tax credits. The Sixth Circuit Court of Appeals was the second to hear the case and differed in its judgment. They held that the property tax waiver committed no violation, but they ruled that the franchise tax credits did violate the Commerce Clause. Finally, the Supreme Court ruled on this case

<table>
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<tr>
<th>Partial List of Incentives Given by Georgia to KIA</th>
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<tbody>
<tr>
<td>Kia is eligible for $75.9 million in tax breaks over five years if it produces 2,893 jobs, and $65.6 million if it generates 2,500.</td>
</tr>
<tr>
<td>Through a local development authority, the state will give Kia a $40.5 million grant for training equipment and other hard assets at the plant.</td>
</tr>
<tr>
<td>Georgia will buy Kia’s site in West Point for $35.7 million and will later sell the property back to the company for $2 million.</td>
</tr>
<tr>
<td>The state will do the preparation work on the site at a cost of $24.8 million. A rail spur will cost another $6 million.</td>
</tr>
<tr>
<td>Georgia will build a 70,000-square-foot training center at the plant that will cost $20.2 million to build and $5.5 million to maintain over five years.</td>
</tr>
<tr>
<td>The state's Quick Start job training program will train Kia employees at the center, a program that will cost $5.7 million.</td>
</tr>
<tr>
<td>The company stands to get about $14 million in sales tax exemptions on equipment and other purchases.</td>
</tr>
<tr>
<td>The state Department of Transportation will provide $30 million in road improvements at the site.</td>
</tr>
<tr>
<td>Source: (Woods, 2006)</td>
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\(^{31}\) The Commerce Clause is found in Article I, Section 8, Clause 3 of the Constitution. It reads that Congress shall have the power “To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes;” There is dispute over what is meant by ‘Commerce.’
in 2006. Producing a unanimous decision, the Court found that Cuno and the other “taxpayers” lacked standing and accordingly the case was dismissed. In the opinion written by Chief Justice\(^{32}\) Roberts, he wrote that the plaintiffs could not demonstrate any specific harm done by the incentives. All they could claim was a “hypothetical claim of injury.” Furthermore, it was unclear that such tax credits diminish tax revenue. After all, they were given under the assumption that investment from DaimlerChrysler would be an economic stimulus. The \textit{Wall Street Journal} praised the decision as preserving states’ rights to determine their own tax policy (WSJ, 2006). Had the ruling been in favor of the plaintiffs, incentives, at least in the form of tax abatements, could have been illegal for all states and for all kinds of investment.

The irony, however, is that despite the widespread use of tax incentives, there is disagreement over their efficacy. Many think that they do not make much of a difference. Others see them as critical. But there does seem to be unanimity in that incentives are a lamentable tool for attracting investment.

There are a few arguments made in support of the use of incentives to attract FDI to a state’s automotive sector. The most frequent is simply a state must offer something because their rival states will. What some describe as “incentives wars” are further encouraged by companies who have come to expect some package of benefits. In the competition in 1985 between Tennessee and Kentucky for Toyota investment (which ultimately went to Kentucky) incentives were considered a deciding factor. James A. Wiseman, a Toyota spokesman, said in so many words that the incentives were a “big factor” in their decision (Ward’s, 1990). And in situations where there is intense competition the foreign firms are in a position to extract the greatest benefit. Each state is ignorant of what the other is offering, if they even know which other states are competing. Hyundai provides a recent example of possible manipulation of states. Hyundai was looking at Michigan to set up a tech center. The Korean car maker eventually won $32 million in incentives with Michigan officials announcing they had won investment away from Alabama. Alabama state officials, however, have stated publicly that they did not even know Hyundai was planning any investment (Carty, 2006). Because states are ignorant of a company’s true intentions and their talks with

\(^{32}\) Chief Justice Roberts’s opinion can be found at <http://www.bricker.com/LegalServices/industry/manufacturing/cuno051506.pdf>
other states, they must try to maximize the incentives they can responsibly afford if they hope to win.

Others say incentives can attract attention to deserving states that otherwise would not be considered. This reason has been given for both investments in the South and in the Midwest. In the north, incentives work to overcome the image that the decline in its manufacturing base will bode poorly for auto manufacturers.

Financial packages for business have become a way of life now as reindustrialization takes hold in the Midwest – once called the Rust Belt – and neighboring states immediately to the south (Ward’s, 1990).

Southern states also fight perceptions of manufacturing and economic weakness. Carl Ferguson, Director of the Center for Business and Economic Research at University of Alabama says that Alabama faces “a legacy that goes all the way to the Civil War.” Perceived as a largely agrarian state with little manufacturing experience, he asserts that the use of incentives has drawn attention from investors, who have discovered that Alabama has good infrastructure and access to the rest of the country.

But others see incentives as only a minor factor with potentially harmful effects on the state. Detractors argue that the ‘slippery slope’ of incentives has already been slipped. Incentives have become “way of life” and corporations have come to expect them. As captured in arguments between feuding political candidates and the plaintiffs in the Cuno v DaimlerChrysler case, may worry about the long term health of state taxes in a time of proliferating incentives. In his book on state tax policy, Brunori writes that the damage is already apparent.

Tax incentives limit a state’s ability to tax corporations on their net profits. But the problem is that such incentives are rarely limited to a small number of companies. The willingness of states to offer tax incentives creates an atmosphere that encourages companies to seek the same type of tax preference offered to other companies. Corporations count on the states’ propensity to offer tax incentives, and many corporate investment decisions are coupled with requirements for incentives. Often these requests are made after the company has already made its investment and location decisions. Once states begin offering tax incentives to a lucky few corporations, it is very difficult not to offer similar incentives to many companies. The result is a declining corporate tax base (Brunori, 2005:89).

Brunori attributes to incentives a large degree of culpability for the drop in corporate tax income as a share of total state revenue. From a high of 9.5% of state revenue in 1977,
corporate income taxes contributed only 5% to the state coffers in 2004 (Brunori, 2005:84).

Others comment that incentives may be advantageous, but only if they are realistically calculated. Hill and Brahmst (2003:13) describe the danger of not properly calculating *when* the state will receive a return on its investment.

Communities should perform the economic impact analysis, but only for what seems a reasonable life of the product to be built in the prospective plant. In other words, the community may be giving the automaker a tax break for 20 years, but the vehicle slated to be built at the assembly plant may have a reasonable life span of 5 years, subject to renewal, if consumer demand is strong. Therefore, the community should calculate the economic impacts based on five years, not twenty.

Still others contend that incentives are of little importance. Companies base their decisions on “enabling environment” factors like those described above. Union activity, cost of labor, location, and manufacturing base, in the opinion of many, are more significant factors (Ward’s, 1990). If they are considered at all, incentives only come into play between locations that are roughly equal (Hill et al., 2003:14).

Mayor Ron Littlefield of Chattanooga, Tennessee expressed frustration over how incentives are used to bring investment to a city. He said, “The bidding war for tax breaks has gotten almost out of control...[but] it’s the price of doing business until someone says halt” (Carty, 2006). With the ruling against the plaintiffs in *Cuno v DaimlerChrysler* any possible legal impediment against the use of incentives has disappeared. At this point, only two options remain. First, legislation could be introduced at the federal level that will regulate the competition for investment between states, akin to what operates in Europe. Or two, the states themselves can voluntarily refrain from using incentives. This could be brought about through education of lawmakers. Brunori (2005:96-97) praises organizations like the Center on Budget and Policy Priorities and Good Jobs First for their studies on the detrimental side effects of incentives. He also recommends coordination of state tax policies in agreements such as the Multistate Tax Compact33. This brings up the problem of collective action which

33 The Multistate Tax Compact is an attempt to “Promote uniformity or compatibly in significant components of tax systems.” In addition to having provisions on the use of incentives, the Compact also aims to coordinate policies and avoid duplicate taxation and provide procedures for handling taxation on entities that operate in several states. The Compact is the creation of the Multistate Tax Commission, whose members come from member states tax authorities. Their website is found at <http://www.mtc.gov>.  

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certainly mitigates the likelihood of this happening, since a state will be very likely to
defect from such an arrangement. Ironically, the states themselves have little incentive
not to use incentives.

The next chapter will begin the examination of data to find evidence to support or
detract from the predominant theories regarding auto FDI location. The examination will
begin with a classification tree analysis to try to identify any locational patterns that may
lend support to these theories.
CHAPTER SIX

Classification Tree Analysis
Which States Get Auto FDI...

To the best of my knowledge classification tree analysis has never been employed in a political science context\textsuperscript{34}. It has, however, been used in other social sciences including psychology and sociology, not to mention regression/classification trees have been extensively used in medicine, biology, and other natural sciences. As a matter of fact, tree analysis was created by social scientists at the Institute for Social Research at the University of Michigan in the early 1960s. But, because of presumed widespread unfamiliarity with this particular statistical technique, this chapter will begin with an introduction to classification tree analysis as a statistical tool and then the model will be discussed.

Classification Trees

Classification trees play both explanatory and predictive roles. On the one hand they elucidate relationships between variables. On the other, they are often used in a predictive function. Trees have been used for example in medicine, to identify who is at greater risk of heart attacks, and in the military, to identify enemy ships based on radar signatures. They are a versatile and powerful technique. Breiman \textit{et al.}, (1984) wrote the definitive book on regression and classification trees. They explain their purpose this way:

\begin{quote}
...the basic purpose of a classification study can be either to produce an accurate classifier or to uncover the predictive structure of the problem. If we are aiming at the latter, then we are trying to get an understanding of what variables or interaction of variables drive the phenomenon – that is, to give simple characterization of the conditions...that determine when an object is in one class rather than another. These two are not exclusive. Most often, in our experience, the goals will be both accurate prediction and understanding (Breiman \textit{et al.}, 1984:6).
\end{quote}

\textsuperscript{34} This statement is based on JSTOR and Academic Search Premier searches limited to political science journals that produced no results.
An important criterion for a good classification procedure is that it not only produce accurate classifiers...but that is also provide insight and understanding into the predictive structure of the data (italics are theirs, Breiman et al. 1984:7).

Tree analysis differs markedly from tradition techniques utilized by political scientists. Linear regression, for example, is a parametric function that assumes distribution of the data along the standard normal probability curve. It also assumes that the phenomenon being studied is homogenous along all possible values for the variables: that is, changes in the independent variable are associated with changes in the dependent variable at a predictable and constant rate. Tree analysis is under no such limitation. As a non-parametric statistical tool, it allows for non-homogeneity. Trees let “different relationships hold between variables in different parts of the measurement space” (Brieman, 1984:7). For example, if one were measuring the relationship between crime rates and income one might find a stronger relationship when income is low than when it is high. Using a tradition linear regression would find a constant association when in reality the relationship might be more complex.

Another significant difference between tree analysis and other statistical tools is that trees can be easily rendered graphically. Called a dendogram, a rendered tree looks like its namesake, albeit upside down, and tree analysis results are easiest to interpret in this form. To describe quickly, a dendogram presents a series of conditions, or questions, used to classify or predict results. Each condition is an independent variable and a value. If the variable is a continuous or ordinal value it will be listed with a logical operator (greater than or less than sign). If the condition is satisfied by a particular piece of data then the tree branches off to another node with another condition. The first condition is presented at the trunk or root node. Once all conditions have been traversed, the dendogram suggests a prediction, or classification. These end points of the tree are known as terminal nodes or leaves.

A classification tree works by splitting a set of data into smaller and smaller subsets. The splits occur so that “the data in each of the descendant subsets are ‘purer’ than the data in the parent subset” (Breiman et al. 1984:23). Impurity is when several values for the dependent variable are present at a given node. A split in the data occurs when the resulting subsets will produce the largest drop in impurity. Splits continue until no more purity is gained and the terminal is assigned a single class: a value of the
dependent variable. In classification and regression trees all kinds of variables can be used: nominal, ordinal, interval, and/or ratio. If the use of classification trees is still not clear, please see Appendix B for a further explanation of their use and provides a simple example for clarification.

The Model

The classification tree was chosen for this study for several reasons. First of all, as a tool to provide predictions it has a long history of use. Second, it is able to incorporate a variety of data measures (nominal, ordinal, etc.). Third trees can identify relationships that exist only at certain values of the “measurement space.” Fourth, under certain circumstances the results can indicate which variables are more important when predicting the dependent variable. And fifth, because the classification tree is non-parametric, it does not require data that conforms to the standard normal probability distribution. This is certainly the case because the states competing for investment are self-selected. Not all states in the US are considered for investment, only those that apply for it.

In order to learn more about the locational decisions of foreign automakers many factors must be incorporated into the model. First of all, the model will use cases of the establishment of greenfield auto assembly plants only. These are the largest and most conspicuous examples of FDI in the auto sector. This kind of investment receives the most attention when it is being courted and makes the largest impact on a state economy when it is actualized. Mergers and acquisitions are not included, and neither are auto parts suppliers\(^\text{35}\). This model will include both states that received investment and also states that submitted bids but did not receive investment \((n=45)\). All of the following variables reflect the conditions present in the year that that decision to invest was made. Also, because tree analysis is not vulnerable to variable interaction it is possible to include variables whose measurements may slightly overlap. The model will determine which variables most accurately predict the dependent variable. What follows is how the important theories will be operationalized.

\(^{35}\) A study of suppliers would be informative but there are significant barriers to investigating them. The most daunting is their quantity and trying to identify who supplies what and for whom. See Rubenstein (1990:2) for an explanation why there are so few studies of auto suppliers.
Labor Quality

Four variables reflect labor quality in the model. It seems to be common knowledge that foreign auto affiliates have set up their operations in such a way to avoid unionized workers. This is an oft repeated theme in the print media (Brat, 2006; Ball, 2000; Buss, 1986) and in the academic literature this thought can also be found (Rubenstein, 1991:137). The theory being that a unionized labor force will impose high employee costs on the company and impinge on managerial flexibility. This worry is especially pronounced for Japanese firms, one of whose strengths being innovative and effective management of the production process. The data used to capture the effect of unions on foreign investors is the percentage of workers in private manufacturing enterprises covered by union contracts, by state and year. This is not to be confused with union membership. More people are covered by union contracts than just its members. Although this variable does not measure United Auto Worker’s activities specifically, it should still communicate the strength of union sympathies in the state. It is predicted that the model should show that foreign investors prefer states with a lower percentage of manufacturing workers covered by union contracts.

Data for all years, however, was unavailable. Data was needed for 1976 (Volkswagen in Pennsylvania), 1977 (Honda in Ohio), 1980 (Honda again in Ohio), and for 2006 (for several recent investment decisions). Data came from the Union Membership and Coverage Database36 available at unionstats.com. Because the data were available for the years 1983-2005 only, values for the missing years were calculated with a regression function based on all the available years37.

Related to union activity, the presence of right to work laws is tested in the model. A right to work law “secures the right of employees to decide for themselves whether or not to join or financially support a union” (Righttowork.org, 2006). Right to work laws are operationalized by a dummy variable indicating the whether such a law was in force at the time the decision to invest was made.

Another important indication of the labor quality is how rich is the state in manufacturing employees. Theory suggests that foreign automakers avoid concentrations of manufacturing enterprises. The percentage of the population that is employed in

36 The data actually was found on the personal website of Economics Professor Barry Hirsch of Trinity University: <http://www.trinity.edu/bhirsch/unionstats/>.
37 The regression was conducted using Excel 2003’s FORECAST function.
manufacturing is included in the model. Data from the Bureau of Economic Analysis and US Census Bureau were used to calculate this data\textsuperscript{38}. Population data reflected yearly estimates, carried out by the Census Bureau, based on the ten year censuses. Population data for 2005 was substituted for 2006.

Finally, the amount of money that is paid to workers is of critical importance to a firm. Considering that labor is one of the largest costs for a manufacturer, theory proposes that companies will be drawn to areas where wage and salary compensation is lowest. The concern may not be so much for the workers in an assembly plant, but for the cost of workers in their suppliers. Wage and salary disbursements per worker were calculated from data from the Bureau of Economic Analysis\textsuperscript{39}. These values were then adjusted for inflation and calculated to reflect their value in 2006 dollars\textsuperscript{40}. Wage values for 2006 were not available and had to be estimated based on date spanning the years 2001-2005.

Manufacturing Base

Aspects of a state’s manufacturing development may have bearing on a car manufacturer’s decision to invest in that state. As already noted, theory suggests that foreign automakers avoid concentrations of manufacturing enterprises. The thinking is that the foreign automaker’s workers will be exposed to unionized workers in American firms, which could escalate the threat of union mobilization at the transplant. The model will include each state’s gross state product in manufacturing with the expectation that it will be negatively associated with foreign investment.

But the composition of the manufacturing base might exacerbate the negative effect, especially if among the present manufacturers are other auto companies. Long established rival car plants could sap the labor pool of available workers (Hill et al., 2003:6). Furthermore, rival car manufactures might be able to exert a political influence to keep others out or frustrate their activities. This sort of effect was said to have

\textsuperscript{38} Data of the number of those employed in manufacturing found at: <http://www.bea.gov/bea/regional/gsp/>. Population data was found at <http://recenter.tamu.edu/data/pops/>.

\textsuperscript{39} The data for total wage and salary disbursements and total manufacturing employment can be found at: <http://www.bea.gov/bea/regional/spi/default.cfm?satable=SA30>. These two values were used to calculate disbursements per worker.

\textsuperscript{40} Values were recalculated using a GDP deflator inflation calculator found at: <http://www1.jsc.nasa.gov/bu2/inflateGDP.html>.
occurred in Georgia as the government prized its relationship with the Ford and GM plants in the Atlanta area and therefore did not vigorously court foreign investment. Unlike examining the aggregate manufacturing base, the paper proceeds with the expectation that there is a point where the number of auto facilities will begin to inhibit the establishment of new facilities. The number of previous auto installations was found in Ward’s Automotive Yearbook and is included in the model.

A similar, but perhaps more accurate measurement, of the previous automotive presence is how many cars were produced in that state. A figure for the total cars produced may however not precisely capture this influence. For example, say two states produce the same about of cars annually, but one of the states is Texas and the other is Mississippi. Because of its larger population and economy Texas should presumably be able to accommodate more factories than Mississippi. As a result, total autos produced per state per year is divided by the total population to produce autos per capita. Like total auto facilities, the results are presumed to show that as more vehicles per capita are produced, the likelihood of auto FDI reduces. Autos per capita should more accurately represent how saturated a state is with assembly plants. Total car production figures were obtained from Ward’s Automotive Yearbook.

A couple other factors deserve inclusion in the model; previous investment by the company and previous investment by other foreign companies. They are coded as a dummy variable and a categorical variable, respectively. Previous investment by same company will look at if a state’s chances of receiving investment are aided by having already received some from the same company. The hypothesis is that indeed previous investment will encourage future investment. Although previous investment by foreign companies, as first glance, may appear to be the same measure as total auto facilities its aim is to capture a different phenomenon. This is targeted primarily at a phenomenon regarding Japanese investment. It has been reported that the Japanese government has advised both Japanese car manufacturers and suppliers on their location decisions. The purpose is to sequester each company in its own state so that none must compete with another for employees or suppliers (Rubenstein, 1991:130). It is presumed that previous investment by other Japanese companies will negatively influence location decisions.

*Economic Indicators and Other Variables*
Corporate tax rates are likely to affect a firm’s decision to invest. States that levy lower corporate income taxes should appear more attractive than states where tax rates are higher. Lower tax rates allow a company to keep more of its earnings and thusly contribute to higher profitability. State corporate tax rates, however, are slightly problematic to incorporate into a statistical model. Many states employ a marginal tax rate regime which does not lend itself to be quantified in a single number. This paper follows Hines (1996) and Carlton (1983) in using the “highest statutory rate” to serve as the tax rate\textsuperscript{41}. The tax rates were found in the annual editions of the \textit{Book of the States}. Michigan required different treatment, however, because it does not use the traditional corporate income tax. Instead it uses a ‘single business tax’ which is a value added tax based on the difference between a business’s sales and the cost of its materials. The Michigan Department of Revenue in 2001 estimated what the equivalent corporate tax would be to generate the same revenue (Tax Foundation, 2005). That value was used in the data set.

A second relevant economic indicator would be the state’s unemployment rate. A company would of course be concerned about the ability to attract workers and therefore could be lured by higher unemployment. Unemployment statistics were found on the Bureau of Labor Statistics website\textsuperscript{42}. Data was not available for all years and had to be estimated. Unemployment statistics for Pennsylvania and Ohio for the years 1976 and 1977 were estimated using date for the years 1978-1989. Also, for the year 2006, the monthly rates so far were averaged.

The final independent variable is a categorical variable signifying the home state. This variable is to see if there are any demonstrable differences in the investing behavior in companies from different countries.

\textit{Adjustments made to ensure temporal comparability}

There were several problems encountered when preparing the data set: namely, how to make the data comparable across three decades. Although all of the above

\textsuperscript{41}This technique is not optimal. It would be best to calculate the average tax rate (effective rate) by taking total tax revenue divided by total taxable corporate income. To the best of my knowledge this information is unavailable.

variables were conceivably relevant over all thirty years their values might have misled any statistical analysis had adjustments not been made. An example should make this clear.

Union activity, undoubtedly, has been a consideration in the executive offices of foreign auto companies. The assumption, as described above, is that unions are to be avoided. But union activity has changed greatly since the seventies, and comparing union rates from 1986 with 2002 could skew results. In 1986 Illinois, Indiana, Michigan, and Ohio competed for a Mitsubishi plant. They had union contract coverage rates of 30.9, 41.7, 44.1, and 38.9 percent respectively. Illinois, the state with the lowest union contract coverage rate won the investment. In 2006 Illinois, Indiana, Ohio, and Wisconsin competed for a new Honda plant. They had union contract coverage rates of 17, 16.3, 20.9, and 14.5 percent respectively. Indiana, with the second lowest rate, won the new plant. Clearly the percentages changed significantly in twenty years and they reflect the general decline of union influence in America. To compensate for this overall drop in union activity all union coverage rates in the data set are recorded as a percent of the national average. In 1986 the national average for union contract coverage was 25.8%. In 2006 the average is estimated to be 13.7%. So the relative rate for Illinois in 1986 was 119.8% and the relative rate for Indiana in 2006 is 119.0%. Suddenly unlike figures become very comparable.

Such adjustments from raw values to relative values were done for other variables too. The value for gross state product was adjusted to be the percent of the national average because the overall value and volume of manufacturing has increased over the past 30 years. The unemployment rate is also recalculated to show its relation, in a percentage, of the national average. In this case the unemployment rate has varied markedly as the overall economic health of the country has fluctuated.

These alterations of the data should not be excessively criticized. And an examination of both general theories of FDI, and theories about auto FDI should support that idea that relative rates, between states, are more important than absolute numbers. Companies like Honda, Toyota, or BMW have decided to invest America for reasons such as industrial organization advantages or to circumvent trade barriers. Their decision to invest in America was made regardless of the fact that Ohio in 1976 had union membership at almost 40 percent, for example. After the decision to build in America
had been made, what then became important was which state provided the most conducive environment for business. Naturally, the companies would make their judgments based on relative considerations so orientating the data into relative values should not create unrealistic statistical measures.

A few words about some variables that were excluded are in order. Certainly physical proximity to the market is an important consideration (Rubenstein, 1991:137, 1990:3; Hill et al., 2003:3-4) but no attempt was made to include such a measurement. The states included in the data differ in many aspects but, in the opinion of the author, market access cannot be considered one. All the states are in either the Midwest or the South and are within a twenty four hour drive or most of the American market. Another interesting variable to look at would be a proposed site’s location to large industrial areas. Hill et al. (2003:6) and Rubenstein have observed that new foreign establishments have been located away from metropolitan and industrialized areas where unions are at their strongest. It is argued that these rural areas tend to be hostile to unions naturally and have been seen as a main reason why there are no transplants with unions. Unfortunately, there is a significant limitation in the availability of data relevant to that question. Rarely does it become public record the specific sites proposed by states that competed for investment. With this knowledge, one might observe that sites close to metropolitan areas are not chosen, while sites further away are preferred. Also, the changing composition of cars could also affect the location decision. As cars are decreasingly made from steal and other metals and increasingly from plastics and composites any pull to traditional steel producing states could decrease.

To recapitulate, a number of variables will be considered in this classification tree analysis.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has investment taken place, yes or no?</td>
<td>- Union activity</td>
</tr>
<tr>
<td></td>
<td>- Size of manufacturing sector</td>
</tr>
<tr>
<td></td>
<td>- Manufacturing wages per capita</td>
</tr>
<tr>
<td></td>
<td>- Presence of Right to Work laws</td>
</tr>
<tr>
<td></td>
<td>- Percent of population employed in manufacturing</td>
</tr>
<tr>
<td></td>
<td>- Total auto assembly facilities present</td>
</tr>
<tr>
<td></td>
<td>- Vehicles produced per capita</td>
</tr>
<tr>
<td></td>
<td>- State corporate income tax</td>
</tr>
<tr>
<td></td>
<td>- Home state of investing company</td>
</tr>
<tr>
<td></td>
<td>- Presence of rival FDI in state</td>
</tr>
<tr>
<td></td>
<td>- Previous FDI by that company</td>
</tr>
</tbody>
</table>
Results

The dendogram suggests three conclusions, with some surprising results (the dendogram is presented in a couple pages and see the fold-out for the data at each node). In general, variables indicating the size and composition of the manufacturing base are most relevant with cost of business factors, such as employee compensation and the tax burden, also playing an important role. The dendogram was fairly accurate, producing only seven misclassifications when the data was resubmitted and only four variables were used to grow the tree.

The dendogram suggests that foreign auto companies invest in states in one of three situations. Node 1 presents the first situation. Following the tree from the top to this node explains that companies like states where the percentage of the population employed in manufacturing is low and there is no more than a modicum of existing auto assembly facilities. Examining the individual cases that are led to that node support this interpretation.

All the cases at this node are Southern states: Alabama, Georgia, Texas, and West Virginia. Furthermore, all cases are recent. Alabama, Georgia, and Texas received investment in 2002, 2006, and 2003. West Virginia is an outlier with its Toyota plant in 1996. These states, with the exception of West Virginia, all had right-to-work laws and low corporate taxes. In addition to that, they all have a small share of workers employed in manufacturing and small volume of car production. With regards to manufacturing employment, they average 4.8% while the average for the entire data set is 8.9%. Their average unemployment is also higher than the national average and higher than the average for the other cases in the data set.

Contrasting these cases with the cases at nodes 2 and 3 is also enlightening. The states at nodes 2 and 3 are also Southern states (exception is Ohio) competing for investment in recent years, but they differ in key areas. The dendogram posits that a slightly larger share of jobs in the manufacturing sector and larger vehicle production hurt investment prospects. What we also see in the cases at these nodes it that these states tend to have slightly higher tax rates and more total car assembly facilities. The states in node 3 also have slightly lower than national average unemployment, which may indicate a low availability of workers, hence, deter investment.
What all this means is that foreign auto companies can be attracted to states that that have some manufacturing, but less than most states, while offering cost advantages like low taxes and employment freedom such as right-to-work laws. They also like a minimal presence of rival auto assemblies and higher unemployment. The paucity of
rival manufacturers could mean better relationships with the government and suppliers and the avoidance of competition. Higher unemployment could make finding workers easier and wages could possibly be lower.

The explanation behind the second situation begins at node 4. The dendogram leads us to cases where the states have large manufacturing sectors and low tax rates. The states at this node are also Southern states, except Illinois, and all but two are between 1995 and 2000. The two outliers are 1980 and 1986. As a group, however, these states offer low taxes, averaging 6%, while the average for all in the data set is almost 7.5%. With the exception of Illinois in 1986, all have right-to-work laws. They also have little manufacturing development. Without Illinois, the seven cases in this group averaged 85% of the average gross state product in manufacturing. Again with the exception of Illinois, all had manufacturing wage and salary disbursements less than the average for the data set as a whole. They have above average manufacturing employment rate but very little auto production. In short, these states were almost an untapped resource for car production. They offer low business costs and a workforce experienced with manufacturing.

The final investment situation seems paradoxical: foreign auto companies also invest in highly industrialized states, but only if the state has a highly developed auto industry. The dendogram conveys that investment also occurs in conditions virtually opposite the first two situations. Large manufacturing development, high taxes, substantial auto presence, and high wages can also attract investment. In node 6 are cases where investment has taken place in such an environment. The cases at this node reflect no particular time frame. They span from 1977 to 2006. They also are all cases of Midwestern states. These states have high taxes, more than 8.3%, high unions, averaging 1.4 times the national average, and the wages among the highest in the data set. Yet this region has steadily attracted investment over three decades. The best explanation posits that, en toto, all these qualities point to a well developed manufacturing sector in a state that has fostered skilled labor that is especially attractive to car assemblers.

The data supports those three conclusions but there are shortcomings of the study that must be mentioned. First of all, one could argue whether some of the measurements are accurate proxies for the phenomena they are intended to represent. Can the percentage of the population that is employed in manufacturing serve as an indication of
the skills a population can bring to new manufacturing installations? Does the amount of vehicles produced per capita truly show the presence of other car manufacturers? Perhaps there are better measures.

Another criticism would be possible variable omission. There are other important factors that foreign car manufacturers would consider before they decide to invest. Infrastructure, such as railroads and highways, is also very important but is not included in the model. Proximity to universities can also be a factor. Car manufacturers often develop relationships with nearby universities and colleges in order to collaborate on R&D or to recruit graduates for engineering positions. No consideration was paid to the relationship between engineering programs and FDI. Of course, the most blatant omission is that of incentives. Many attribute to incentives a definitive influence on the decision to invest, but others minimize their impact. This debate is described elsewhere in this paper but a variable including incentives would have been desirable. Unfortunately, data on the incentives offered is woefully incomplete. Upon finalizing an investment agreement, the state receiving the investment will publish the incentives it offered. But the states that unsuccessfully competed for that investment rarely put into the public record their own incentive offers. This makes analyzing the impact of incentives on foreign auto companies difficult.

Finally, there are a couple weaknesses concerning how the statistical analysis was conducted. First, several data were estimated. Some values, such as union activity rates, were not available and had to be estimated from data that was. The second anticipated criticism regards the use of the classification tree analysis. Thirteen variables were submitted for analysis but only four variables were used to grow

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43 The analysis of incentives has been attempted, albeit in a different way. See Hill & Brahmst (2003) for a statistical analysis of the difference in incentives offered by Northern and Southern states to all car manufacturers, foreign and domestic.
the tree (VehicleCapita, ManuPop, deWageCapita, and CorporateTax). It would be a misread, however, of the tree to conclude that these four variables are the most important and the others meaningless. Classification trees determine which combination of independent variables can most accurately predict the dependent variable. The combination that is produced is the optimal combination, but a slightly different combination can give comparable results. Using a tree analysis allows one to determine which variables are the most important. Looking at the graph above shows the relative importance of all the variables. The four variables there ended up in the tree were among the most important but a few important variables were not used in the tree. If one or more of the four variables in the tree were removed, a new tree, possibly quite similar to the old, would be produced with similar accuracy and using some of the other important variables. There could be several important variables but one variable may mask another and remove it from the tree.

In summary, a classification tree analysis was conducted on the states that competed to bring FDI to their automotive sector. This particular statistical technique was chosen because it easily accommodates both categorical and continuous independent variables, it can discover relationships that exist only at certain parts of the “measurement space,” and it can produce results from data that do not conform to the standard normal probability distribution. The classification tree suggests three conclusions.

<table>
<thead>
<tr>
<th>Investment occurs when…</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Foreign car companies will invest in states that have little manufacturing development and employment. Also previous auto investment is small and unemployment is high.</td>
</tr>
<tr>
<td>2) Foreign car companies will also invest in states with slightly more manufacturing development as long as other costs are kept low. These states must also have low taxes, low wages, right to work laws, and little previous auto investment.</td>
</tr>
<tr>
<td>3) Finally, foreign car companies will also invest in highly developed manufacturing states with high wages and taxes, but only if there is significant auto presence.</td>
</tr>
</tbody>
</table>

The first and second situations aptly describe recent FDI in Southern states, such as Alabama, Mississippi, and Georgia. The third situation pertains to states in the Midwest but has occurred sporadically over the past thirty years. The next chapter will examine a case of auto FDI in a Midwestern state. The case of Honda in Ohio will be investigated next.
CHAPTER SEVEN

Honda and Ohio

The first sentence of the lead story of the October 7th, 1977 issue of the Marysville Journal-Tribune read as follows:

“Ohio” in Japanese means “Good Morning”, and that’s what is was for residents of Union County and central Ohio as officials of Honda Motor Company, Ltd. and the Government of Ohio announced at a 9 am news conference that an agreement had been reached clearing the way for the Japanese firm’s selection of Union County as the site for a motorcycle assembly plant (Honda, 2004:9).

And with that, Honda was in Ohio. The plant was completed and production began two years later. But what was it about Ohio that gave Soichiro Honda, the founder of the company, and other Honda decision makers the confidence give production in the US a try?

Some pronouncements from the company have addressed their location decisions but they provide little guidance. Many mention a company “philosophy” that they should produce their products where the market is (Fleeter, 2004:4). In an advertisement the company ran in American periodicals just before their car assembly plant opened they describe some advantages to producing where their products are sold.

That way, we at American Honda can get to know the people better. We can respond faster to changes in the marketplace. And we can provide significant economic benefits (Honda, 2004:17).

These statements can speak to why Honda invested in America, but neither sheds light on why Ohio over another state. Soichiro Honda, when asked by a reporter what brought Honda to Ohio, provided the most elusive answer of all: Mr. Honda said “it was an act of

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44 This reference can be found on the very last page of the report. There is no page number.
**Honda Corporate Structure in Ohio**

**Quick Facts about Honda in Ohio**
- Honda employs over 16,000 directly.
- Suppliers affiliated with Honda employ 40,000, half of which work exclusively on parts for Honda.
- The company has invested over $6 billion in Ohio.
- Honda purchases almost $7 billion in products from its suppliers every year.

**Honda's Facilities**
- Motorcycle plant, began operation in 1979
- Marysville Auto Assembly plant, began operation in 1982
- Anna Engine plant, began operation in 1985
- East Liberty Auto Assembly plant, began operation in 1989

providence\textsuperscript{45} (Rhodes, 1990). It is certainly a compliment to the state that the success of Honda’s Ohio operations reminds him of an act of god, but it does not help the objective study of MNC behavior. Therefore, other paths to the answer will have to be sought.

This chapter will be a case study of what it was about Ohio that attracted Honda. As a case study, greater detail and more accurate context can be achieved than in a large \( n \) statistical study. But the set up will be similar. The theories explaining location decisions presented in the previous two chapters will be revisited here but examined with greater scrutiny. Each theory is discussed in the context of realities present in Ohio when investment decisions were made. Arguments made to support or to detract from each theory are based on relevant data including statistics and quotes from company officials or auto industry experts. Below is a table that will preview how well conditions in Ohio fit theory.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Description of Relationship</th>
<th>Direction</th>
<th>Affirmed by Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Activity</td>
<td>Transplants want to avoid areas with high union activity. They assume unions will increase the cost of labor and limit managerial freedom.</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Auto Industry Presence and Manufacturing Development</td>
<td>Too many rival car manufacturers could sap the labor pool of workers. Furthermore, domestic manufacturers would also be associated with increased union presence.</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Economic Strength</td>
<td>A foreign affiliate should be attracted by strong economic indicators.</td>
<td>Positive</td>
<td>No</td>
</tr>
<tr>
<td>Location/Market Access</td>
<td>A car manufacturer needs good access to the rest of the market for distribution of its products.</td>
<td>Positive</td>
<td>Yes</td>
</tr>
<tr>
<td>Incentives</td>
<td>Incentives offset the costs of building new facilities and training. They should be positively associated with the likelihood of investment.</td>
<td>Positive</td>
<td>Possibly No</td>
</tr>
</tbody>
</table>

The table shows that these theories poorly explain why Ohio was chosen for investment. The theories are not completely wrong, but they overlook subtleties about the effect on auto investment, and the story of Honda in Ohio reveals other important factors that could have made a difference.

\textit{Union Activity}

\textsuperscript{45} Evidently this statement from Mr. Honda has been variously translated. On Honda’s website for its Ohio manufacturing sites, \textless http://ohio.honda.com\textgreater , it was translated as “it was an act of God.”
Ohio has one of the highest union rates in the country. Historically labor unions have been very active in Ohio, especially in manufacturing. Below is a graph that shows just how much above the national average Ohio is with regards to union coverage. The years selected correspond to the years production started at major investment sites: 1983 for the establishment of the assembly plant in Marysville (it actually began in 1982, but the data began in 1983), 1985 for the engine plant in Anna, and 1989 for the car assembly plant in East Liberty. This idea has been frequently used to explain the investment in the South in the 1990s, but it does not jibe with the case of Ohio. The corollary of this idea is that foreign affiliates are located in rural areas where labor unions clash with local mores on work. The premise is certainly true. Foreign affiliates in high union states, like Ohio and Indiana, have been located in rural areas. But even this explanation may not be accurate. Honda employees are drawn from not only its immediate area, but other areas of the state. Honda has identified a “primary hiring area” that consists of fifteen Ohio counties\(^46\) (Fleter, 2004:27n31). One of the fifteen is Franklin country, where Columbus, the capitol of Ohio, is located. Two of the others, Delaware and Madison, border Franklin country. So here is evidence that a foreign automaker not avoiding at all costs employees that come from a metropolitan area with high union activity. Furthermore, it would be fatuous to think that locating a few dozen miles away from an urban area would preclude union mobilization\(^47\). After all, Marysville, population 16,000, is only 31 miles away from Columbus. Furthermore, the

\(^{46}\) These fifteen counties are: Allen, Auglaize, Champaign, Clark, Darke, Delaware, Franklin, Hardin, Logan, Madison, Marion, Miami, Shelby, and Union (Fleter, 2004:27n31).

\(^{47}\) Foreign affiliates in other states are located in ‘rural’ areas but they are by no means located far from American, unionized plants. Toyota’s plant in Georgetown, KY is 15 miles from Ford’s truck plant in Louisville and GM’s Bowling Green plant is not much farther. Nissan’s plant in Smyrna, TN is only an hour from a Saturn plant. Other transplants are located in states that are cohabitated by American automakers (Maynard, 2003:1999).
UAW is active in rural areas in Ohio. Over 3,000 members in Defiance (pop. 16,465, with Fort Wayne, Indiana, the nearest city with over 50,000 people, more than fifty miles away) are union members. There are over 500 UAW members in Trenton (pop. 8,746, with Cincinnati the closest city with over 200,000 almost 25 miles away). The UAW is also active in other rural cities, although larger than Marysville, such as Springfield and Lima, but still located away from Ohio’s three largest cities. Locating in rural areas obviously does not obviate the influence of unions: transplants, including Honda, are keenly aware of them.

In its almost thirty years of operation in Ohio, Honda has encountered unionization threats. In 1986 UAW attempted to arrange a representation election, focusing on complaints about the “relatively fast work pace.” Sufficient support for a vote did not materialize and the UAW suspended efforts (Buss, 1986). To mitigate the threat, transplants are conscious of what auto workers employed by the ‘Big 3’ get paid and pay their own employees comparable amounts (Maynard, 2003:224; Hill et al., 2003:5). While domiciling in rural areas puts plants in a culture that may antithetical to unions, unions are still a real threat. What has kept Honda union-free has been its attention to good relations between management and its “associates.”

Auto Facilities and Manufacturing Base

A second factor that has been purported to explain location decisions is the presence of other automakers and high concentrations of manufacturing enterprises in general. Other auto facilities in a state could sap the labor pool of skilled workers and raise wages. More auto facilities, if they are American, also mean greater UAW presence. Ohio however does not conform to theory. By any measure, Ohio has a very large auto presence. It produces more cars and auto parts than any other state, save Michigan. It also has more auto facilities than another other state, save Michigan. Statements from Honda officials also allude to auto facilities actually being an attraction for investment. Kiyoshi Kawashima, President of Honda Motor

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Car and Truck Assembly Plants in Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>8</td>
</tr>
<tr>
<td>1985</td>
<td>10</td>
</tr>
<tr>
<td>1989</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Ward’s Automotive Yearbook

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48 UAW union activity figures come from their website: [http://www.uaw.org/about/where/region2b.html](http://www.uaw.org/about/where/region2b.html).

Company in late 1970s, said that Ohio was attractive because its “good supply of labor, supply of parts, and good industrial environment” (Honda, 2004:8). Also, Fleeter, an Ohio State University economist, had access to Honda officials and documents when he conducted a study of Honda’s economic impact on Ohio. He reported that important factors leading to building in Ohio were “Ohio’s location in the industrial Midwest” and the state’s “availability of a motor vehicle parts supply base” (Fleeter, 2004:2).

Characteristics of Honda’s, and other Japanese automakers especially, supply system may explain why a developed manufacturing base and plentiful parts suppliers are attractive. Japanese automakers were the first to use the just-in-time supply system. This

![Graphs showing domestic content and manufacturing production in states where foreign affiliate has major operations.]

makes location and quick and reliable delivery very important. During a tour of the Honda Marysville plant I learned that they only have enough supplies and parts on hand to last four hours of production.

*Economic Factors*
Others points to economic factors as being a determinant to FDI. Good economic indicators such as unemployment and economic growth should attract FDI. If these factors were requisites for investment, Honda would never have come to Ohio. In the late 1970s when the motorcycle plant was to be built, Marysville, Ohio was in recession, had an unemployment rate of about 13%, mortgage rates were around 20%, and the economy statewide needed a boost (Atchison, 2004). One of the larger employers in the area, Rockwell International, was closing their plant, laying off 600 workers (“Japanese Autos”, 1982). When Honda first arrived at the site, they thought the economic situation would make Ohio not a “good fit” (Honda, 2004:8).

The dire economic situation was not an impediment as it turned out. High unemployment could be seen as an advantage. Available labor was plentiful and competition for it was weak. This allowed Honda to pick the best prospective employees who would fit their managerial model. The closing of the Rockwell International plant could also have been an attraction. The 600 laid off workers had previously make truck-axles, so they provided some vehicle manufacturing familiarity to Honda.

**Location**

How Ohio is situated in the US is an advantage, and the theory that auto companies locate in places with good market access is supported by Honda in Marysville. Ohio is within a 24 hour drive of 75% of the market (Ward’s, 1990). Put another way, Ohio, the “Heart of America,” is also located within 500 miles of 2/3 of the population and buying power (Rhodes, 1990). Ohio puts an automaker within easy reach of almost the entire east coast.

**Incentives**
The final theoretical issue to examine is what role incentives played. Although, Honda did not ask for any incentives (Rhodes, 1990), a package was assembled and offered to the company. It involved both direct and indirect incentives that were distributed over a number of years. This single package of incentives also covered all of Honda’s investments, from the motorcycle plant to the two assembly plants, and the engine plant. The direct incentives totaled $26.9 million. $22 million were inducement grants and $2.9 million were for job training assistance. They were spent from 1977 to 1988. The indirect incentives went to a $64.4 million expansion of US-33 between Marysville and Bellefontaine that was completed in 1994. In total, $91.3 million were dispersed to Honda, which is quite meagre compared to incentives from other states. Other site improvements, that today are typically included in incentive packages, were paid for by Honda. The company paid for a sewer extension to the plant site and also contributed money for the city’s water treatment plant and they built another water treatment plant on their own property.

There is evidence, however, that Honda was not significantly swayed by the offering of incentives. First, they did not ask for any incentives, and when first offered them they rejected portions of the package. When Governor Rhodes offered to provide the land for free, a Honda representative replied that they could not accept that: Honda wants to buy the land at fair market value (Honda, 1980). Second, the incentives they eventually accepted were a package that had been rejected by another foreign automaker. Volkswagen (VW) was the first to produce cars in the US, and when they were looking for sites in the mid-70s Ohio tried to attract them. They offered an incentive package that was similar in value to what was eventually given in Honda. VW, on the contrary, decided to invest in Pennsylvania, who offered a slightly larger incentives package (Rhodes, 1990). Moreover, Honda has long maintained that incentives hold little influence over them. As we saw, Honda rejected some of the incentives offered by Ohio, and when they invested in Alabama in 1999 Honda ended up rejecting parts of their offer as well. Koki Hirasima, Honda’s manufacturing executive, was sympathetic to Alabama’s finances after its enormous incentives giveaway to Mercedes. Hirasima worried that Alabama’s education system would suffer if the taxes, that Honda had already expected to pay, were obviated by tax abatements. After he asked government officials about the amount the schools would lose, he wrote a check to the state for double
the value (Maynard, 2003:214). Other statements from the company also call into question how incentives have affected their location decisions. Roger F. Lambert, a Honda spokesman said as much, “Incentives were never a part of what has drawn us to this area, or caused us to expand” (Wards, 1990).

Some of these theories fail to adequately explain why Honda chose Ohio. In the cases of some, notably the presence of other auto facilities, the opposite may be the case: some auto presence may encourage investment. In the case of Ohio, there was a unique factor, that probably would not have existed had there not been previous auto presence. According to Governor Rhodes, the governor at the time of the Honda investment, the existence of the Ohio Transportation Research Center (TRC) “had a lot to do with Honda’s decision to come to Central Ohio” (Rhodes, 1990). The TRC was created by the Governor in the 1960s from money appropriated by the state to improve Ohio’s roads and highways. The TRC, located in Marysville, became the nations leading research center for automotive performance and safety. The site included a 7.5 mile test track and 50-acre vehicle dynamics testing area (Honda, 2004:31). The TRC was owned by the state, and operated by Ohio State University’s College of Engineering. When Honda built its motorcycle plant part of it was built adjacent to the TRC.

Honda eventually purchased the TRC in 1987 for $31 million. Of that amount, $6 million was a grant50 to the OSU’s College of Engineering who continue to administer the site. Even though Honda owns it, it services other car companies and is the only facility used by the federal government for “motor vehicle durability, emissions, acceleration and dynamics” testing (Honda, 2004:31). It has over 600 customers and is used by 200 federal researchers. Honda also uses it for its own product development as well. It, and two other research sites in the world owned by Honda, form the “nucleus of how Honda brings its vehicles to life” (Maynard, 2003:96). The TRC has proven to be an important tool for Honda’s development in America. Governor Rhodes was probably correct in thinking that the TRC was an important attraction to Ohio.

Another reason why previous auto investment and a developed manufacturing base would be advantageous would be the plentiful population of suppliers. The relationship between assembler and supplier has become more and more important in the

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50 Honda has since invested more in the OSU College of Engineering. They have given $30 million more, bring the endowment to over $43 million, the second largest endowment at the University (Honda, 2004:31).
last couple decades. With the introduction of the just-in-time supply system, proximity has become more important. First of all, having local suppliers is important because of the need for speedy and reliable delivery. As mentioned earlier, Honda Marysville has only four hours of parts in stock. The second aspect of the just-in-time delivery system that makes close proximity important is the increasing integration between supplier and assembler in the design and production of parts. Relationships are have become closer, with assemblers choosing one supplier, and entering long term contracts with that supplier, whereas before assemblers would look for parts from competing suppliers and buy at the lowest price. Assemblers consult with suppliers on the design and production and the entire process may take 2-3 years, indicating the investment put into the relationship. Some have speculated that this kind of supply system will lead to “clusters of components suppliers forming around major vehicle assembly sites” (Frogartt, 1991:168). There is evidence that this in fact is what happened. Ohio is home to more of Honda’s suppliers than any other state (Wilson, 2006). All this could support the idea that an existing supply of suppliers would be attractive to transplants.

More manufacturing does not necessarily increase proportionately its attractiveness. Ohio has not received any new greenfield investment from Honda since the East Liberty plant in 1989 (although all of Honda’s facilities have been upgraded and expanded over the years), in spite of many attempts. Information regarding the specific sites proposed by the state and possible incentive packages is not known: But they may not have made a difference. In 1999 Ohio lost Honda investment to Alabama and in 2006 lost investment again to Indiana. Both times the supply of workers was given as the prohibitive factor. Honda officials thought that the company had sapped the area of workers and did not want its facilities to compete with its suppliers for workers (Wilson, 2006; Maynard, 2003). But there is a silver lining. In the latter case, the Anna engine plant will be expanded to increase capacity to meet the demand of the assembly plant in Greensburg, Indiana, so Ohio will still receive some new investment.

Politics may have also been a determining factor concerning location, working to the detriment of Ohio. Since 1989, Honda has invested in Alabama and most recently in Indiana. Because of this, it is surmised, Honda now has the ears of four new Senators and several representatives. *The Columbus Dispatch* explains it this way:
Honda might decide to increase its [political] clout by building a plant in a state such as Indiana, where it has no operations, giving it a new set of elected representatives to support its interests in Washington (Carter et al., 2006).

As a transplant, Honda is a target of the Big 3’s political machinations and has been victimized by their political influence. But there is evidence that Honda, and other Japanese car companies are taking the political aspect more seriously. Honda’s and other transplants’ spending on lobbying in Washington has jumped in the last few years, while lobbying spending by GM and Ford have stayed roughly equal or dropped significantly, respectively. See the graphs below from OpenSecrets.org.\(^5\)

**Figure 7.3 Lobbying Spending by Honda and Ford**

It should be noted, however, that although Honda lobbying spending appears to be increasing, it is still much less than Big 3 companies.

Other factors may have made the difference in Honda’s location decision, including the personal relationship between Governor James Rhodes and Soichiro Honda and recreational activities that Ohio provides. Honda, described by some as “big on loyalty,” could have been swayed by such a personal relationship (Wilson, 2006). The Governor and Mr. Honda had met years before the company even considered investing in America. They first met in 1968 during an Ohio trade mission to Japan. They met again in 1970 during a Governor’s Association Meeting in Tokyo where they played golf together and sat next to each other at a banquet. Their third face to face meeting came when the Governor made a surprise visit to Japan when he learned that some Japanese automakers were investigating the prospects of investing in America. Governor Rhodes persuaded Honda to look at Ohio and personally accompanied Honda officials on tours of the state. During the nine months of negotiations, a friendship was born. According to a Honda publication, Soichiro Honda and Ohio Governor James Rhodes formed a “lasting friendship that…changed the economic fortune of an entire state” (Honda, 2003:7).

\(^5\) [http://www.opensecrets.org/lobbyists/index.html]
Governor Rhodes also learned of Mr. Honda’s love of golf, which may also have been a deciding factor in favor of Ohio. Playing golf with a friend is enjoyable enough, but having access to some of the world’s best courses can be an attractive feature of a location in its own right. Rhodes has written that their “special relationship” has been taken to three world renowned courses in central Ohio: Scioto Country Club, Muirfield Village, and The Golf Club (Rhodes, 1990). Many have speculated that entertainment opportunities at a location could influence decision making, naming golf specifically (Ward’s, 1990). Two long time writers on Ohio’s auto industry for the Columbus Dispatch have speculated the same when it comes to Honda (Carter & Wilson, 2006).

In conclusion, the traditional explanations of auto FDI poorly explain why investment occurred in Ohio from the late 1970s and throughout the 1980s. In the case of union activity, Ohio has had a strong union presence which should discourage investment. Pointing to Marysville’s rural location also does not make up for the fact that UAW members are found in both urban and rural settings. Honda’s ability to stay union-free must be for other reasons which weaken the power of that explanation. Ohio manufacturing development and previous auto industry investment seem to have been an attraction, which contradicts theory. The TRC and availability of suppliers were seen as positives. The economic weakness of the state was initially a worry, but the high unemployment certainly foretold no shortage of workers. Ohio supports the theory that location in the US is important. Incentives were offered, but there is reason to believe that they were not a deciding factor to the investment. Other factors may also have contributed to the decision to bring Honda to Ohio such as the close relationship between Governor Rhodes and Soichiro Honda and also entertainment opportunities in the state. The next chapter will attempt to synthesize the findings in this and the last chapter and draw conclusions relevant to the body of work on the subject of auto FDI.
A few conclusions can be made from the evidence presented here that call into question the assumptions that go into popular thought about auto FDI. Most notably, is that auto FDI avoids unions and avoids states with highly developed manufacturing sectors. Investment in the industrialized, unionized Midwest has continued to occur over the past thirty years. The move of auto FDI to the South over the last ten years is undeniable. But the Rust-Belt states should not feel disadvantaged when competing for investment. Statements from Honda officials in the case of Ohio indicated that the presence of suppliers and a manufacturing sector can be attractive. The deterring effect of unions is probably also overemphasized. Such thinking has led to Midwestern states to compete jealously for investment, and has produced some regrettable behavior. Hopefully, episodes like Michigan asking Mitsubishi to make a public statement that they chose to invest in Michigan over Alabama will not happen again. Puerility such as that, however, do reflect the emotion tied up in the quest for auto investment.

Such emotions may have lead to what some may say is irrational, and ultimately destructive, state government policy. The liberal granting of incentives to entice investment may not be a good strategy in general. It’s a beggar-thy-neighbor policy that transfers profits from the state to the company. But auto FDI may pose a different situation. Incentives can be considered an investment from the state in a company, and the investment will have been a wise one if the company flourishes and the state is rewarded with increased tax revenue (or spillovers, however success is defined). Incentives given to foreign automakers, for the most part, have produced bountiful returns to their respective states in terms of employment and tax revenue. The position of foreign automakers in today’s US auto industry looks to only improve. Although this study was limited in its ability to study the effect of incentives on automakers decisions to locate, a review of attitudes about their use and a cursory examination of the success of foreign automakers lead this author to disagree with the critics. Incentives can be a wise
investment, as long as they are given to foreign automakers. The states are almost certain to recoup their money.

What implications could these findings have on state policy towards attracting investment? First of all, the Rust Belt could soon be the Refurbished Belt. States in the Midwest have a unique advantage over other states by the very thing that many say is their weakness: an extant auto industry. As the just-in-time supply system becomes more important in the production of cars, suppliers will need to be located closer to the assembly plant. The industrialized states of the Midwest already have suppliers and a solid manufacturing foundation. All they need are more assemblers. This may already be happening. The recent decision by Honda to invest in Indiana has bucked the trend of moving south. Not only is this investment in the Rust belt, but it may also be evidence of concentration of facilities; Greensburg, Indiana is less than a three hour drive from Marysville, Ohio.

Without a doubt, foreign automotive investment has made a big impact on the US auto industry. And Honda, for example, has made a big impact on Ohio. In the previous chapter was a quote from Soichiro Honda, the founder of the company, that credited “providence” with bringing Honda to Ohio. The dictionary lists two definitions for the word providence. One pertains to acts of God. The other has to do with “showing wise forethought for future needs or events\textsuperscript{52}.” Perhaps Mr. Honda was not divinely inspired, rather he saw that Ohio was the perfect setting for Honda’s future business needs. He saw the qualities that would make Ohio a good home for the first Japanese car producer in America. In the same vein, this paper has tried to show “wise forethought” for how states can attract automotive foreign direct investment. As a result, I hope it imparts its own “providence” to the reader.

\textsuperscript{52} From Oxford American Dictionary.
Appendices and References
APPENDIX A

Understanding Classification Trees

The classification tree is statistical technique that is not normally found in introductory statistical texts. The classification tree is also not normally used in the political science discipline. With these facts in mind, it may be helpful to briefly describe the classification tree as a statistical technique.

Classification trees are a form of regression trees, which were first introduced to the social sciences by Sonquist and Morgan in 1964. Venables and Smith (2005:60) described the function of trees this way:

…tree based models seek to bifurcate the data, recursively, at critical points of the determining variables in order to partition the data ultimately into groups that are as homogenous as possible within, and as heterogeneous as possible between.

Classification trees graphically “predict membership of cases or objects in the classes of a categorical dependent variable from their measurements on one or more predictor variables” (Statsoft, 2003a). This categorical dependent variable can be dichotomous (two variations) or polytomous (several variations). The regression tree, on the other hand, predicts results of a continuous (quantitative) dependent variable. Both forms of trees produce graphical renderings of their results called dendograms.

Because of their graphical nature, dendograms are among the easiest statistics to understand and interpret. Below is a dendogram produced using R Statistics 2.2.053

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53 The program was used on a Macintosh running OS 10.3.9. R Statistics is a free statistical software package that is widely used in both natural and social science disciplines. The program, and information about it, can be obtained at <http://www.r-project.org>. 
representing fictional data. This graphic depicts the relationship between SAT scores of incoming freshman and the school attended (Miami University, Ohio University, and Penn St. University). The dendogram presents a series of dichotomous choices that lead to predictions. This particular dendogram will predict the school attended based on the student’s SAT score. The dendogram begins at the top; known as the root node. In this case the root node asks whether the student’s SAT score is less than 1115. If the particular case affirmatively answers this question then one should follow the tree to the left and to the next node. In this particular dendogram, this path leads to a terminal node. Terminal nodes are also known as leaves. These kinds of nodes identify the prediction. According to this dendogram, if a student’s SAT score is less than 1115, then the student attends Ohio University.

On the contrary, if a datum does not satisfy the condition at a particular node, then one should follow the tree to the right and to the next node. If a student’s SAT score is greater than 1115 the dendogram branches to the right to a child node where another condition is presented. This time the condition is whether a student’s SAT score is less than 1420. If so, the dendogram predicts that the student studies at Penn St. If the student’s score is greater than 1420 then the dendogram predicts that the student attends Miami University. One can also conclude that Penn St. students tend to have higher SAT scores than Ohio University students. Miami students have still higher SAT scores than the other two schools.

As with all statistical models, there is a measure of the model’s error. In the case of a classification tree this measurement is made in the number of classification errors. That is when the model misclassifies data. The misclassification error rate is calculated by dividing the number of misclassified observations by the total number of observations. In the SAT score example, the model misclassifies two observations, out of 15, for a misclassification rate of 13%. The two values that are misclassified are shown in bold in the table to the left.
Regression trees (both traditionally regression and classification trees) have strengths and weaknesses. One of their strengths is that regression trees are not as sensitive to interaction among the independent variables. Another strength because of its non-parametric nature, is that trees are well suited to conduct statistical analysis on nominal or ordinal data or data that many be conform to the standard normal probability curve (Pfaffenger & Patterson, 1987:1014). Also, trees do not assume a linear relationship between dependent and independent variables. They can discern relationships that exist only when a variable has high or low values. An example given by Fox (2000) would be comparing crime rate and income. The relationship between crime and income is especially strong when income is low. Fox also writes that regression trees “are also useful when the object is to generate decision rules” (2000:57-58). Trees have also been praised for their data mining abilities.

…tree methods are particularly well suited for data mining tasks, where there is often little a priori knowledge nor any coherent set of theories or predictions regarding which variables are related and how. In those types of data analyses, tree methods can often reveal simple relationships between just a few variables that could have easily gone unnoticed using other analytic techniques (Statsoft, 2003b).

Tree analysis is not without its detractors however. First of all, there are no strict rules for “growing, pruning, and selecting a final tree” (Horowitz, et. al, 1991:2020). Trees can continue to split until each observation reaches its own node. The technique of pruning trees, removing terminal nodes to create more general terminal nodes, similarly are often at the discretion of the researcher. Another weakness of the tree is that it can be difficult to identify interaction among variables. Although in general interaction among variables is less of a problems in trees, if such interaction does exist they can produce asymmetrical trees. But this asymmetry may indicate insignificant interaction. Asymmetry may also be a factor of few cases for a particular variable. In other words, when asymmetry is observed, it can be difficult to identify the cause.

Tree analysis can be conducted with most major statistical programs. For more information about trees consult any of the referenced works in this appendix. Also see Breimen et. al. (1984). His work is considered the most extensive development of regression tree analysis.
APPENDIX B

Codebook for Data Set

Not all data described in this codebook were used during the statistical analysis. Some data were simply used to calculate other data which were later included in the analysis (e.g. gross wage and salary disbursements in manufacturing sector and number of people employed in manufacturing were used to calculate average disbursement for manufacturing employees). Other data were considered for inclusion in the model but later were rejected. They remain in this data set in case others may use it and find some or all of these values useful. Most of the sources for the data are mentioned here in the codebook but adjustments to the data, estimates, and other issues concerning the data or explained at greater length in the chapter describing the statistical model. Following the definitions of the variables are the R Statistics commands needed to produce the results presented in this paper.

The data set and other relevant material can be downloaded at:
http://www.users.muohio.edu/macclejm/thesis/

Codes are listed in alphabetical order.

**AverageManufacturing**: is the nationwide average value of the gross state product in the manufacturing sector in a certain year. This value was calculated by taking the variable ‘NationalManufacturing’ and dividing by 50. The dollar value is not adjusted for inflation. The data comes from the Bureau of Economic Analysis. It can be found at: <http://www.bea.gov/bea/regional/gsp/>.

**CorporateTax**: is the corporate income tax rate in a state. The data comes for the Book of the States.

**deWageCapita**: is the average wage or salary dispersement to employees in the manufacturing sector of a given state in a given year. It was calculated by dividing ManuSalaryDispersements by ManuEmployment. This value is adjusted for inflation.

**Employment**: The planned initial employment of a facility upon commencement of operation.
GSPManufacturing: is the gross state product for the manufacturing sector in a particular state. The dollar value is not adjusted for inflation. The data comes from the Bureau of Economic Analysis. It can be found at: <http://www.bea.gov/bea/regional/gsp/>.

HomeState: identifies the home state of the foreign company investing in America.

Incentives: is the aggregate dollar amount of incentives a state offers to a foreign investor. These incentives include tax breaks, infrastructure improvements, employee training, and other benefits. The dollar amounts are not adjusted for inflation.

Invest: dichotomous nominal dummy variable to indicate whether foreign direct investment actually took place. It is self explanatory. ‘Yes’ indicates that investment did indeed take place. ‘No’ indicates that it did not. This data served as the dependent (response) variable in the classification tree.

investID: this variable indicates the specific instance of FDI examined. The code is derived from the name of the company and the ultimate state or city where their investment was located. This variable can be used to isolate the year, competing states, and other data related to a particular instance of investment. The following are meanings of each code:

HoLin – Honda in Lincoln, AL
HoEL – Honda in East Liberty, OH
HoAn – Honda in Anna, OH
HoGr – Honda in Greensburg, IN
HoRP – Honda in Russells Point, OH
HoMc – Honda Motorcycle in OH
HyAl – Hyundai in Alabama
MiIl – Mitsubishi in Illinois
NiMi – Nissan in Decherd, IL
NiTS – Nissan in Smyrna, TN
SuLa – Subaru in Lafayette, IN
ToFe – Toyota in Texas
ToAl – Toyota in Alabama
ToLn – Toyota in Kentucky
ToWV – Toyota in West Virginia
BmwSc – BMW in South Carolina
MerAl – Mercedes in Alabama
KiaGa – KIA in Georgia
VwpA – Volkswagen in Pennsylvania
DeIn – DaimlerChrysler in IN
**Investment**: dichotomous numerical (dummy) variable to indicate whether foreign direct investment actually took place. ‘1’ indicates that investment did take place. ‘0’ means that it did not.

**ManuEmployment**: is the total employment in the manufacturing sector in a given state in a given year. The data comes from the Bureau of Economic Analysis. It can be found at: <http://www.bea.gov/bea/regional/spi/default.cfm?satable=SA30>.

**ManuPop**: is the percent of the population in a certain state in a certain year that is employed in the manufacturing sector. It was calculated by dividing ManuEmployment by population.

**ManuSalaryDispersesments**: is the total dollar of wage and salary dispersements to manufacturing employees in a given year. The dollar value is not adjusted for inflation. The data comes from the Bureau of Economic Analysis. It can be found at: <http://www.bea.gov/bea/regional/spi/default.cfm?satable=SA30>.

**NationalManufacturing**: is the nationwide total value of the manufacturing sector for a given year. The dollar value is not adjusted for inflation. The data comes from the Bureau of Economic Analysis. It can be found at: <http://www.bea.gov/bea/regional/gsp/>.


**Owner**: lists the owner, the investing foreign company, of a particular instance of FDI. The companies included are Honda, Toyota, Mitsubishi, Volkswagen, DaimlerChrysler, Mercedes, Hyundai, Subaru, and KIA.

**Population**: is the estimated population for a state in a certain year. Data comes from the US Census Bureau and reported on <http://recenter.tamu.edu/data/pops/>.

**PrevInvest**: is a dichotomous nominal value that indicates whether a particular firm has invested previously in that state. ‘Yes’ means yes, previous investment has occurred. ‘No’ means no previous investment has taken place.

**PreviousInvestment**: is a dichotomous numerical value that indicates whether a particular firm has invested previously in that state. ‘1’ means yes, previous investment has occurred. ‘0’ means no previous investment has taken place.

**PrevGermInvest**: is a dichotomous nominal variable that indicates whether previous investment by a German auto company has occurred in a particular state. If such investment has occurred, and that investment was not from the company in question, it is identified as a ‘Yes.’ If no such investment has taken place or previous investment was done by the company in question, it is marked as a ‘No.’
**PrevJapInvest**: is a dichotomous nominal variable that indicates whether previous investment by a Japanese auto company has occurred in a particular state. If such investment has occurred, and that investment was not from the company in question, it is identified as a ‘Yes.’ If no such investment has taken place or previous investment was done by the company in question, it is marked as a ‘No.’

**RelManufacturing**: is the percent of a state’s manufacturing production compared to the state average nationwide. The values were calculated by dividing GSPManufacturing by AverageManufacturing.

**RelUnemployment**: is the percentage of a state’s unemployment to the national average. It was calculated by dividing StateUnemployment by NationUnemployment and multiplying the product by 100.

**RightWorkLaws**: is a dummy variable that shows whether a particular state has passed a right-to-work law. ‘1’ means such a law is in force. ‘0’ means that there is not such law.

**State**: is the state where the investment is being sought. It includes both the state that won the investment and state(s) that competed for it.

**StateUnemployment**: is the unemployment rate, seasonally adjusted, in a certain state in a certain year. The data comes from the Bureau of Labor Statistics. It can be found at: <http://data.bls.gov/map/servlet/map.servlet.MapToolServlet?survey=la>.

**TotAutoFacilities**: is the total amount of car-assembly facilities in a state in a given year as listed by Ward’s Automotive Yearbook. This includes both foreign and domestic plants.

**Tot Vehicles**: is the total amount of cars produced by all auto-manufacturers in a particular state in a particular year. Data comes from Ward’s Automotive Yearbook.

**UnionNational**: is the nationwide average percent of private manufacturing employees covered by a union contract. This is not average membership of unions. The data comes from Unionstats.com and reported on the personal website of Economics Professor Hirsch of Trinity University. His website can be found at <http://www.trinity.edu/bhirsch/unionstats/>.

**UnionState**: is the percent of employees covered by a union contract in private manufacturing operations in a particular state. This value is not manufacturing employees who are *members* of unions. The data comes from Unionstats.com and reported on the personal website of Economics Professor Hirsch of Trinity University. His website can be found at <http://www.trinity.edu/bhirsch/unionstats/>.

**Value**: is the dollar value of the investment unadjusted for inflation.

**VehicleCapita**: is the number of vehicles produced in a state per person residing in that state. The values were calculated by dividing TotVehicles by Population.
**WageCapita:** is the average wage or salary dispersement to employees in the manufacturing sector of a given state in a given year. It was calculated by dividing ManuSalaryDispersements by ManuEmployment. This value is not adjusted for inflation.

**YearDecision:** is the year in which the foreign company announced publicly that it will build a production facility in a certain state. Observations for all other variables, for which a certain year was relevant (e.g. unemployment rate, population, etc.), were found for this specific year.

**YearProduction:** is the first year a particular facility began production of automobiles or auto parts.

R Statistics commands.

Here are the commands to be used to reproduce the results in R Statistics. The data should be loaded into a data frame entitled FDIdata.

```r
FDIdata.tr <- tree(Invest ~ RelativeUnion + PrevInvest + RelManufacturing + RightWorkLaws + deWageCapita + ManuPop + RelUnemployment + TotAutoFacilities + VehicleCapita + CorporateTAX + HomeState + PrevJapInvest + PrevGermInvest, FDIdata)

par(mai=c(1,1,1,.5))

plot(FDIdata.tr); text(FDIdata.tr, cex=.8)
tree.screens()

par(mai=c(1,1,1,.5))

plot(FDIdata.tr); text(FDIdata.tr, cex=.8)
title("Dendogram for FDI in US Auto Sector")
screen(2)
par(omi=c(1,1,1,.5))
tile.tree(FDIdata.tr, FDIdata$Invest, screen.arg = 2, axes=T)
close.screen(all=T)
```
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