A FORMAL MODELING OF THE IMBALANCE THEORY TO EXPLAIN TWO DIRECTIONS OF FOREIGN DIRECT INVESTMENT

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ABSTRACT

Foreign direct investment (FDI) has two directions - downward and upward. Traditional FDI theories explain downward FDI, but not upward FDI. This paper introduces a new model, the imbalance theory, which explains both downward and upward FDI. The new theory deals with the balance of both ownership advantages and disadvantages, while the traditional theories mainly focus on ownership advantages in the decision of FDI. For a formal modeling of the imbalance theory, this paper explains the relationship between the optimal input and optimal output. The imbalance theory then explains and predicts FDI when there is a difference between a firm's expected level of optimal output for the best factor-proportion and its actual level of output.

Keywords: foreign direct investment, imbalance theory, a formal model, ownership advantage, ownership disadvantage

INTRODUCTION

Foreign direct investment (FDI) has two directions. One is the investment from a more developed country (MDC) to a less developed country (LDC), which can be termed "downward" FDI. The other is the investment from an LDC to an MDC, which can be termed "upward" FDI. Traditionally, most investments have been downward FDI. Recently, however, there has been a rapid increase in FDI by LDC firms. The FDI motivations of these new multinational corporations (MNCs) from LDCs are often different from those of MNCs from MDCs.

The existing FDI theories have been developed to explain downward FDI. Their major concern is to identify a certain type of ownership advantage that gives a firm a competitive edge in doing business abroad. In this traditional world of FDI, the investing firm is from an MDC and the invested country is an LDC. In the case of upward FDI, the investing firm is from an LDC and the firm may not have any significant ownership advantages compared to firms in an MDC. When a Korean firm first invested in Silicon Valley, for instance, the Korean firm had few significant

ownership advantages relative to other MDC firms in Silicon Valley. The exiting FDI theories, focusing on ownership advantages, are not satisfactory in explaining this type of FDI. The main motivation of FDI by the LDC firms is to compensate for their disadvantages rather than to exploit their existing advantages. In other words, some LDC firms invest in Silicon Valley to get access to technology or to establish international networks. Thus, a new idea of integrating both advantages and disadvantages is needed to explain both directions of FDI.

This paper will explain a new theory for this purpose. In this new approach, the firm's optimal level of output or growth of the firm is determined by the most critical firm-specific factor, say, technology in manufacturing industries. Given the optimal level of output, FDI will be explained and predicted when there is a difference (or imbalance) between the actual and optimal factor levels. Specifically, it is argued that the larger the difference between the actual and optimal factor levels, the more likely the firm will invest abroad. One important implication of this new approach is that FDI depends not only on the surplus factor (ownership advantage), but also on the deficient factor (ownership disadvantage). This analysis is thus an extension to the traditional approach of ownership-advantage.

This new approach of "imbalance theory" is originated from Moon and Roehl (1993, 2001), as an alternative to the traditional ownership approach. This paper will provide a formal modeling of the theory and demonstrate that this theory is useful in explaining both downward and upward FDI.

LITERATURE REVIEW

Early attempts to explain FDI were made by the international capital theory. But they were soon abandoned for two main reasons (Dunning 1981, p. 76). First, FDI involves the transfer of resources (technology, management skills, etc.) other than capital, and it is the expected return on these, rather than on the capital *per se*, which prompts firms to become MNCs. Second, in the case of FDI, resources are transferred internally within the firm rather than externally so that the control between two independent parties is important. Without this control, resources cannot be efficiently transferred.

Since the international capital theory could not explain FDI well, several alternative attempts have been carried out. The initial core of modern theory of the MNC was a simple proposition that in order to compete with indigenous firms, which possess innate strengths such as knowledge of the local market and business conditions, foreign entrants must have some compensating advantages. Buckley (1985, p. 2) points out that this proposition took FDI away from the theory of capital movements into the theory of industrial organization. For, in a perfect market, FDI could not exist because local firms would always be able to outcompete foreign

entrants. The initial phase of the approach was therefore the attempt to identify the distinctive features for FDI in terms of ownership advantages of foreign firms.

It is conventional to trace the origins of the modern theory of the MNC to the doctoral dissertation by Hymer, written in 1960 and eventually published in 1976 (Buckley 1985). Out of this approach, several hypotheses have been put forward, focusing on particular kinds of ownership advantages of MNCs. For example, Johnson (1970) suggests that technological knowledge or skills can be a special advantage when it has the characteristic of a "public good," that is, it can be exploited by a subsidiary at a cost that is low in relation to the acquisition costs facing a rival firm. Caves (1974) argues that the critical advantage is the ability to differentiate a product, thus enabling the firm to service simultaneously several international markets. In addition, scholars (Horst 1972, Wolf 1977) suggest other factors such as the size of firm. However, the possession of ownership-specific advantages alone does not explain why a particular location is utilized. To explain this, another group of location-specific factors may have to be taken into account.

The decision of FDI is affected by location factors of both home and host countries, although most location theorists appear to focus on just one of these two countries. The firm-specific advantages are not independent of the general economic and institutional environment of the home country. For example, U.S. government science and education policy may be a key variable in explaining the technological lead of U.S. firms in many industries (Dunning 1981, p.35), while, as Vernon (1979) points out, innovations respond to factor endowment and market structure. Porter (1990) presents a more comprehensive framework which integrates firm-specific variables and the economic variables of the home country. However, Porter's (1990) original model is not complete, mainly because it does not integrate multinational activities. To correct this, extensions are made by Rugman and D'Cruz (1993), and Moon, Rugman and Verbeke (1995, 1998).

The location-specific endowments of particular importance to MNCs are (a) raw materials, leading to vertical FDI; (b) cheap labor, leading to "offshore production" facilities; and (c) protected or fragmented markets leading to FDI as the preferred means of market servicing (Buckley 1985). However, it does not seem that FDI can be explained only with location factors. For example, suppose that the location factors of a certain host country are the same for any two firms in the same industry of the same home country. Then why can a firm invest abroad while others cannot? As Dunning (1979, p. 273) points out, the location approach to FDI is not "wholly satisfactory" because it has not been integrated with other theoretical approaches, notably industrial organization theory. Location factors are important, for example, when an MNC faces several host countries for potential investment, but less important when several MNCs in the same industry of the same home country exploit the same host country.

The most popular "when" approach is the product cycle theory (Vernon 1966, Wells 1972). This theory is of particular value, partly because it treats trade and investment as part of the same process of exploiting foreign markets, and partly because it explains this relationship in a dynamic context (Dunning 1981, p.77). The main point of this theory is that the relative importance of the location-specific characteristics of host countries will change over time as the product itself moves through its life cycle of new, growing and mature stages. As a consequence the firm's choice between exports and FDI can also change.

The approach of internalization may be put into the category of the "why" approach, but it is more reasonable to classify it as a "how" approach because its main purpose is to explain entry mode, that is, the preference of FDI over licensing, exports, and so on. To explain the firm's preference of FDI, theorists (Buckley and Casson 1976, Rugman 1981, Hennart 1982) have turned to the ideas of the Coase theorem and the transaction cost paradigm (Williamson 1975). The basic idea is that firms may bypass the external market and internalize the transactions within the firm itself because the external market is costly and inefficient for undertaking certain types of transactions. The concept of internalization has become a major synthesizing and unifying concept in the theory of the MNC. However, the theory has been formulated at a rather general level. Buckley (1985, p. 42) comments that the concept of internalization is tautological; firms internalize imperfect markets until the cost of further internalization outweighs the benefits. As Casson (1984) points out, internalization theory lays much greater stress on the benefits of internalization than it does on the costs and the theory is very weak in its analysis of management.

It has been presented that no single hypothesis offers a satisfactory explanation of the activities of MNC, but all the theories are interrelated. One of the candidates for a general theory of the MNC is Dunning's eclectic theory (Dunning, 1979, 1981, 1988, 2001, 2002, 2003), which is based on the OLI paradigm: ownership advantage, location advantage and internalization. However, Buckley (1985) points out that the existence of separate ownership advantages is doubtful and logically redundant because internalization explains why firms exist in the absence of such advantages. Rugman (1981) also argues that internalization itself represents a general theory of the MNC and the existing theories are basically sub-sets of the general theory of internalization.

The internalization approach says that it is not the possession of a unique asset *per se*, but the process of internalizing that asset which gives the MNC its unique advantage. In other words, it is the ability of firms to combine the surplus resources with others to exploit economies within the firm. However, this ability is a managerial capability to bypass external markets, which can be regarded as just one of the ownership advantages. Dunning (1988) has also indicated that the internalization approach better explains the common ownership of MNC subsidiaries in different

locations, rather than why particular subsidiaries are located where they are. The contribution of the internalization approach is therefore in its identification of an invisible advantage (managerial capability) from visible advantages (capital, surplus managers etc.). Hence, this theory is basically one of the ownership approaches.

Although "why" and "where" approaches have been treated separately, it is obvious that they are closely interconnected. As discussed, the explanatory power of location factors is very weak in explaining why a firm invests in a particular host country while others do not even when these firms are in the same industry from the same home country. The true firm-specific advantage in this case is therefore (probably) the managerial factor which is able to encompass factors such as cheaper capital, technological advantages, and so on. Thus, the true factor for FDI is again the firm-specific factor which can utilize the location factors.

The product-cycle hypothesis, which is useful in focusing on the interaction between the factors which influence the location of production also needs to be considered more in association with the firm-specific advantages. This hypothesis focuses too much on the change in location factors as a product matures. The change, however, is primarily due to the change in the ownership advantage - technology, but the hypothesis does not *per se* explain the source of ownership advantages. The main contribution of this hypothesis is again in its emphasis on the changing ownership-advantage of innovation as technology standardizes.

A FORMAL MODELING OF THE IMBALANCE THEORY

To sum up the critical review of the existing FDI literature, whatever factor of production - capital, technology or management skill - is emphasized, the main tool of most of existing theories is the ownership-advantage approach. This view has been supported by several scholars. For example, Dunning and Rugman (1985 p. 228) agree that the theory of FDI is primarily about the transfer of ownership-specific intangible assets by the MNC. Many scholars (e.g., Kogut and Zander 1995, p. 420) actually favor explanations grounded in firms' ownership advantages, instead of market failure and transaction costs determining the international expansion of firms. To explain FDI, Dunning (1995, p. 465) reemphasizes the endogenous ownership advantages which are different from exogenous variables of market failure.[1]

However, the real question is not whether a firm has ownership advantages or not, but what makes a firm transfer its advantages abroad? All that many of the existing theories and companies are trying to say is that every firm that goes abroad

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[1] For a more in-depth debate on ownership (or organizational) advantages versus market failure. See Ghoshal and Moran (1996) and Williamson (1996).

has some advantages, but this kind of analysis is too simple and *ex post*. The ownership advantages can be defined as some unused factors (Penrose 1959) or surplus factors which are too large to be limited to the firm's current scale, but can be very productive in the firm's larger scale. The firm may invest these advantages locally or abroad. In any case, if the firm can invest them properly, the firm's total expected scale will be larger than now because the firm has its current scale and will have an additional investment. Suppose there exist scale economies in the firm's expected scale. Then, this advantage can increase the economic value of all of the factors by increasing their productivities. The firm is thus motivated to invest abroad when it has some advantages, but when it cannot utilize them domestically. Therefore, some idea of scale economies should be introduced to explain FDI.

In the imbalance theory, the MNC is defined as a firm which can and will mobilize the factors across the national border in order to attain its *ex ante* level of optimal output or growth of the firm.[2] Given the level of optimal output, the theory shows how an MNC behaves when there is a difference between the expected optimal requirement of factors for the given level of optimal output and the actual possession of factors.

(1) Relationship between Technology and Optimal Output

An "economy of scale" is said to exist when larger output is associated with lower average cost. The "optimal output" may then be defined as the output associated with the lowest average cost.[3] As the cost function for production is determined by technology, if the level of technology is given, the optimal output associated with the lowest average cost is also determined.[4] Optimal output is thus a function of technology.

Optimal Output = f (Technology)

Figure 1 shows the one-to-one relationship between technology and optimal output. For example, if there is a technological development from T_0 to T_1, the optimal output should increase from X_0 to X_1. It is conventional to condense technology into a single dimension, so that a positive relationship is expected between optimal output

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[2] Most FDI theories refer to production factors. However, they may include some other factors such marketing skills and service.

[3] The theory begins with a definition of optimal output that corresponds to lowest average cost. One might argue that this seems to violate economic rationality if a firm is a profit maximizer, rather than a cost minimizer. However, in a competitive environment, most firms operate at possibly lowest average cost.

[4] Technology is an art or method of production. The higher level of technology corresponds to lower level of production cost.

and the level of technology. However, if we look at the multi-dimensional aspect of technology in the real world, the relationship does not necessarily have to be positive. The introduction of flexible manufacturing, for instance, means that one can reduce the optimal output for many products. Thus, the optimal output may be reduced from X_1 to X_2 even though there is a technological development from T_1 to T_2. In any case, it is assumed that the unique optimal output exists for each level of technology.

Figure 1. Optimal Output as a Function of Technology
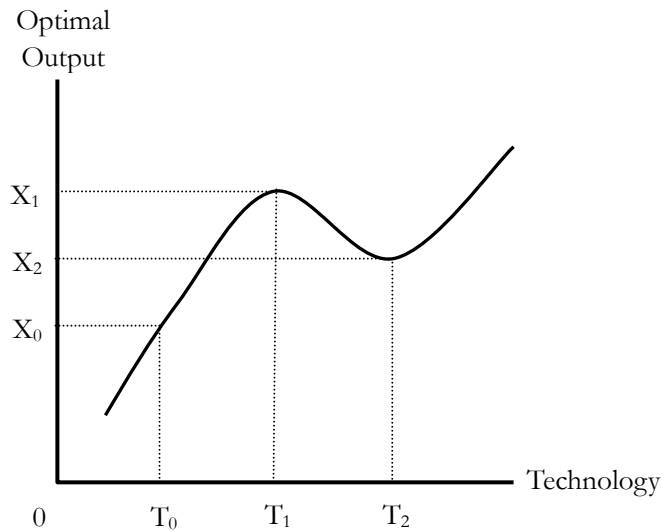
(2) Function of Optimal Factor Requirement
Given a certain level of optimal output, it can be hypothesized that the optimal requirement of each factor exists. Thus,

K* = g (Optimal Output)
L* = h (Optimal Output)
where K* (L*) is the optimal requirement of capital (labor) for a given level of optimal output.

In Figure 2, for example, K_0^* and L_0^* are the optimal factor requirements for X_0, and K_1^* and L_1^* for X_1. The amount of both capital and labor increases to get a higher level of optimal output. There is thus a positive relationship between each factor requirement and the level of optimal output. It should be noted that technology, capital and labor are the only factors in this model. If some other factors are introduced in the model, the functions "g" and "h" will not necessarily have a positive slope. On the vertical axis, both K and L are labeled in terms of dollars. The

technology that the firm in this example uses can be called "capital-intensive" because it needs more capital than labor in terms of dollar at each level of optimal output. Since the technology is capital-intensive, the higher the level of optimal output, the more productive labor becomes, so that the optimal requirement function of labor ($L*$) is flatter than that of capital ($K*$). In addition, each of the factors used in production is assumed to be a linear function of output. Thus,

$$K* = a + bX \qquad a, b > 0$$
$$L* = c + dX \qquad c, d > 0$$

where X is the level of optimal output[5]

**Figure 2. Function of Optimal Factor Requirement**
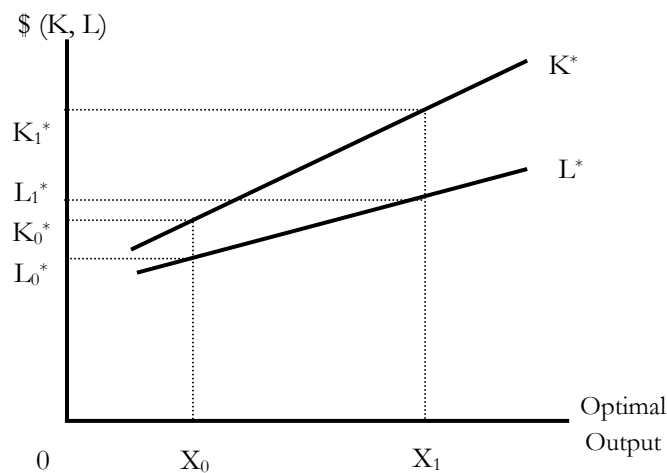
(3) Constraint Function for ex ante Optimal Output

Suppose a firm's optimal output is X_0 in Figure 3, given its current level of technology. If the firm wants to operate under X_0, the optimal requirement of each factor at that level of optimal output is K_0* and L_0*, respectively. In reality, however, suppose that the firm has capital (K_0) which is larger than the optimal (K_0*) and labor (L_0) which is smaller than the optimal (L_0*). The firm is thus going to achieve the level of optimal output at X_1 and it will have the surplus capital ($K_0 - K_1*$). The actual level of optimal output for the firm, X_1, is lower than the expected level of optimal output, X_0,

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[5] As long as "a (c)" is greater than zero, the average "capital (labor)" requirement per unit of output declines as output increases. This is how increasing returns to scale are modeled (see Bhagwati and Srinivasan 1983, p. 96). In other words, there are decreasing average costs and constant marginal costs (see Krugman 1979, p. 471).

because the labor that the firm actually has is smaller than its optimal requirement, even though there is a surplus capital. Therefore, it is not the surplus factor (capital), but the deficient factor (labor) which constrains the level of optimal output for the capital-abundant firm. In Figure 3, the constraint function for *ex ante* level of optimal output is the function of L (the dotted line).[6]

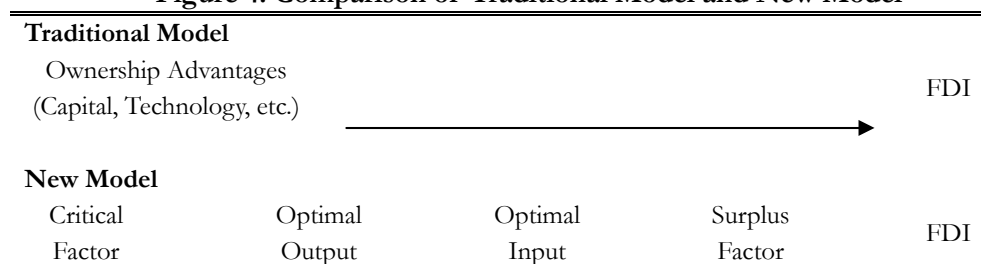**Figure 3. Constraint Function for ex ante Optimal Output**
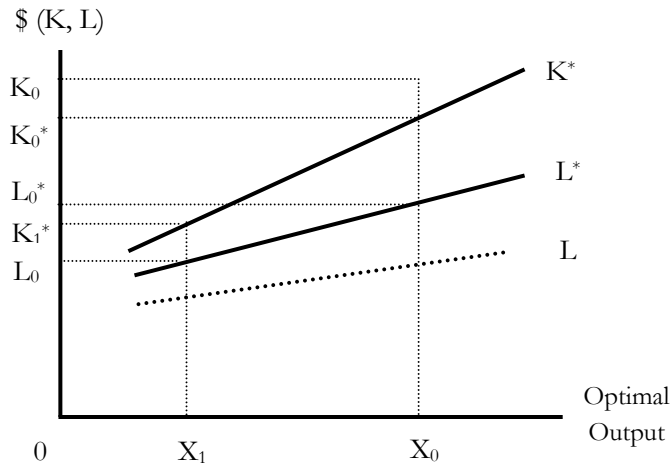
The surplus capital ($K_0 - K_1^*$) in Figure 3 is similar to the unused productive resources which are the source of competitive advantage (Penrose 1959, p. 85). Assuming factor immobility, by the way, the marginal productivity of each surplus factor is almost zero if the firm would want to operate on an optimal scale. Rather, the cost to maintain the surplus factor may not be negligible (ownership advantage or disadvantage?). However, if the firm moves the surplus factor to another business system which needs it, the firm will increase its productivity and contribute to increasing the level of optimal output. The firm is thus motivated to invest abroad to seek its complementary factor or factors.

The procedure of FDI can be summarized as follows. First, the level of a critical

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[6] The theory suggests that a shortage of the firm's use of some factors such as labor in the home country is the basis for FDI. One might argue that it seems much easier for the firm to simply hire more labor within its own home economy, rather than going to the trouble of sending its surplus factor. However, FDI is the only viable strategy when labor is either expensive or unavailable in the firm's home country.

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factor, say, technology, is exogenously given.[7] At the given technology, optimal output can be determined. This optimal output also determines optimal inputs. Then, the amount of surplus factor, say, capital, can be determined when the firm has a larger amount of capital and a smaller amount of labor than necessary for optimality. Finally, FDI is determined when the amount of surplus factor and the cost of its movement are known. This FDI process of the imbalance theory is illustrated and contrasted with that of the traditional ownership approach in Figure 4.

Figure 4. Comparison of Traditional Model and New Model

Traditional Model

| Ownership Advantages (Capital, Technology, etc.) | ⟶ | FDI |

New Model

| Critical Factor | Optimal Output | Optimal Input | Surplus Factor | FDI |

In our example, technology is a critical factor to determine the level of optimal output. The critical factor varies across industries. It can be technology for a manufacturing firm, well-trained manpower for a construction firm, marketing skill for a marketing-oriented firm and so on. The critical factor may also vary across the sequential decisions of a firm because each decision of investment at different time periods can have the effects on the next round of imbalances in the factor proportions. In any case, even though there are more than one ownership advantages in a firm, only the most critical factor determines the firm's optimal scale, and at this given level, when there is a difference between the actual and optimal factor proportions, the ownership advantages such as capital will be invested.

From this perspective, the surplus capital is not the direct motivation for FDI. The fundamental motivation for FDI is the "imbalance" of factor inputs at a certain level of optimal output which is determined by the firm's critical factor, say, technology in our example. In contrast, the traditional (ownership-advantage) approach considers just the last stage of the whole FDI procedure as illustrated in Figure 4.

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[7] Some factors affecting technological change can be examined. For instance, technology is said to be improved when, under given conditions, for given products, costs are reduced through an increase in the specialization of labor, the introduction of automatic machinery or assembly-line techniques, and other similar technical alterations in the organization of production. See Penrose (1959, p. 90) for more information.

FDI BY LDC FIRMS

The new model helps explain the more recent type of FDI, that from LDCs to MDCs. This new type of FDI cannot be well explained if only ownership advantages are emphasized because it is difficult to say that firms from LDCs have any significant ownership advantages over firms from MDCs. In order to fully comprehend the situation, both surplus and deficient factors, and their balance, should be considered.

The main concern of the works (Kumar and McLeod 1981, Lall 1981; Wells, 1983) concerning MNCs from LDCs is still an attempt to find some ownership advantages of MNCs from LDCs, with a primary focus on technology. Their common conclusion is that the "minor" innovation of MNCs from LDCs, which is labor-intensive and small-scale for some adaptation or improvement in the process or product technology, may function better in the environment of other LDCs than that of MNCs from MDCs do. However, this kind of approach cannot explain why LDCs invest in overseas extractive industries which need rather large-scale and more than "minor" technology. This approach further fails to explain why LDCs invest in MDCs where the "minor" technology is not very appropriate for the business environments of MDCs. Consequently, this sort of approach is merely an attempt to solve another type of downward FDI from Newly Industrialized Countries (NICs) - South Korea, Taiwan, Hong Kong, and Singapore - to LDCs, with a focus on ownership advantages. On the other hand, scholars such as Grosse and Trevino (1996) studied macro-economic variables such as home country market size, cultural distance, and exchange rate as motivations for reverse investments in the United States.[8] However, this macro approach cannot explain why some firms go abroad while others not from the same home country.

Suppose an LDC manufacturing firm invested in the United States. How could the existing theories explain this? According to Dunning's Eclectic Approach, the LDC firm may have ownership advantages such as an adequate product and process technology and cheap labor; location advantages such as a particular U.S. market segment for cheap product, good infrastructure and compensation for absence of future market. However, this approach does not explain whether the ownership advantages of the LDC firm for that particular market are really absolute in comparison with those of other firms.

On the other hand, Wells (1983) says, "Since managers are responsive to their home markets, the nature of a particular firm's advantage is influenced by the characteristics of that firm's national market. Given the nature of the U.S. market, U.S.

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[8] The investments of this study are not by LDCs, but by other MDCs. Although this is not the case of FDI by LDC firms, this is another example of upward or parallel FDI, but not downward FDI.

firms are particularly likely to generate high-income and labor-saving products or processes." According to his argument, there cannot be an investment by the LDC firm in the United States. Rather, there can only be an offshore production of the U.S. firm in an LDC because not the LDC managers, but U.S. managers can be well-responsive to the U.S. market. The American firm can do business much better than the LDC firm by establishing an offshore plant if the U.S. labor cost increases. In other words, the product-cycle theory can explain offshore production, but not LDC investment in the United States. This theory explains the possibility of the downward flow of a factor, i.e., technology, but not the upward FDI.

Why are the traditional theories of FDI not satisfactory in explaining the upward FDI? In general, the explanatory variables of traditional theories of FDI are technology, marketing skills, capital resources, and access to raw materials and market. These variables were good enough to explain FDI motivations by MDC firms in LDCs during the 1970s and 1980s. However, none of these variables is adequate to explain the investments by LDC firms which have been increasingly important since the 1990s. LDC firms are characterized not by superior technology or other advantages, but by standard technology and cheap labor. It may be argued that cheap labor is a major advantage of LDC firms. There should then be an investment only from MDCs in LDCs, not the other way around. Since labor is less mobile internationally than other factors such as technology and capital, LDCs should only be recipients of FDI. The advantage of cheap labor is thus not enough to explain the upward FDI.

What are then the major motivations for the LDC firm to invest abroad? The recent trend of overseas investments by NICs firms goes in two directions - downward FDI and upward FDI. The downward investment by the firms from the NICs takes advantage of the lower labor and land cost, and/or abundant natural resources in China and Southeast Asian countries. In addition, domestic labor problems are eroding the unique comparative advantage of the NICs. These countries are thus motivated to exploit the cheap labor and natural resources in neighboring Asian countries. In contrast, the upward investment by the firms from the NICs is to overcome any barrier in their exports, to catch up new technology and to establish their own brand names in the MDC market. Some studies (Wesson 1993, Bulatov 1998, Hedlund and Ridderstrale 1997, Makino, Lau, and Yeh 2002) have suggested that firms invest abroad to get access to strategic assets but few studies have introduced a formal theory for this FDI motivation.

The common motivation for these two different types of FDI is to try to compensate for the firm's disadvantages such as resources, technology and market. On the other hand, the common motivation for FDI argued by the traditional approach is to utilize the firm's existing advantages such as technology, capital resources, and management. These different explanations may be alike just as two

sides of the same coin. However, the traditional approach, focusing on advantages, explains just the downward FDI, while the new imbalance approach, focusing balance of both advantages and disadvantages, explains both downward and upward FDI.

The model developed in the previous section has some limitations in explaining the variety of FDI by LDC firms because it is basically a two-factor (capital and labor) model.[9] The major motivation for LDC investment may be to seek a large market in MDCs such as the United States or resources in countries such as Canada and Australia. Therefore, the model should be extended to include some other factors such as market and resources.

Since constructing a higher dimensional model is often difficult, an alternative approach is to replace capital or labor with another factor such as market. For example, if an LDC firm invests in the United States and if the major motivation for the investment by the firm is to seek the large U.S. market, only two factors of labor and market can be compared, assuming the "capital" factor is constant. Suppose the investing LDC firm has as much capital as the MDC firms of similar size. Further suppose the firm has more well-trained cheap labor, but less market accessibility than its competitors. We could then compare just the two factors of labor and market. In this light, the two-factor model can explain various types of FDI by replacing one of the two factors with a third.

CONCLUSION

The imbalance theory is unique in the sense that the role of optimal output is emphasized, while the traditional ownership-advantage approach argues that FDI is determined directly by ownership advantages. As discussed, the possession of ownership advantages does not directly affect the FDI decision. The imbalance theory explains and predicts FDI when there is a difference between a firm's expected level of optimal output for the best factor-proportion and its actual level of output.

Recapitulating the main points of this new theory, the optimal level of scale for a firm is determined not by the surplus factor, but by the most deficient factor. Consequently, the surplus factor should cooperate with its complementary factor, assuming that the benefit which can be gained by increasing the level of optimal output or growth of the firm is larger than the cost which arises when the surplus factor moves. Under this assumption, the existence of any surplus factor is enough for investment motivation, i.e., the firm does not need an absolute advantage in order to invest abroad. It is a "disadvantage" in the sense that the marginal productivity of the

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[9] If the critical factor, say, technology, is included, the model is a three-factor model. However, the critical factor is fixed, thereby uncontrollable in this model.

surplus factor is very low (almost zero in Penrose's sense) and that the cost to maintain it should be positive, assuming the firm operates on the most efficient scale which requires optimal requirements for each factor.

However, when the investment decision is made, the surplus factor becomes an important ownership advantage and contributes to a higher level of optimal output than before by increasing the productivity of each factor. MNCs seek complementary factors abroad and increase the economic value of these factors as well as that of their own factors, by balancing the factor inputs to their optimum. This idea will give a rationale to the behavior of MNCs for the efficient allocation of world resources and help alleviate some conflicts between MNCs and host countries.

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