FOREIGN DIRECT INVESTMENT THEORIES, ENTRY BARRIERS, AND REVERSE INVESTMENTS IN U.S. MANUFACTURING INDUSTRIES

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Abstract. This paper investigates empirically whether industrial organization-oriented FDI theories explain the recent phenomenon of reverse foreign direct investment in the U.S. Based on the distribution of FDI in two-digit SIC manufacturing industries, we find that capital and advertising intensities act as entry barriers to foreign investments in the U.S. We also observe that foreign multinationals are attracted by the U.S. market size, and that they invest heavily in industries with intensive R&D combined with marketing efforts.

The extant theories on foreign direct investment (FDI) have primarily focused on the investment decision of the U.S.-based multinational corporation.\(^1\) As the 1970s saw the foreign capital inflow into the U.S. in the form of direct investment intensifying, the need to explain the motivations behind non-U.S.-based firms' investments in the U.S. arose. Although there are some published field studies which explain these motivations, few attempts were made to provide linkage between extant FDI theories and reverse foreign direct investments.\(^2\)

The objective of this paper is to investigate empirically whether product market imperfection-oriented theory of FDI can explain the inflow of FDI into U.S. manufacturing industries. We also examine whether factors which act as entry barriers to domestic corporations also apply to foreign-based firms as well. In addition, we examine if reverse foreign direct investments are concentrated in certain industries, as was the case for FDI by U.S. MNCs [Gruber et al. 1967 and Mansfield et al. 1979b]. The statistical analysis to be conducted in this study is based on the characteristics of U.S. manufacturing industries which receive foreign direct investments rather than on the firm-specific attributes of foreign-based multinational corporations.

The remainder of this paper is organized as follows. The second section briefly reviews the FDI theories by U.S.-based firms and of entry barriers which are

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relevant in drawing testable implications regarding the reverse direct investment activities of non-U.S.-based firms. The third section discusses the hypotheses and model specification. Data sources and research methodology are presented in section four which is followed by empirical test results. The final section gives a summary of the findings.

**FDI THEORIES AND REVERSE INVESTMENTS**

The monopolistic advantage theory of FDI advanced by Hymer (1966) and Kindleberger (1969) asserts that the multinational corporations possess a rent-yielding asset (for example, production know-how) which gives them the edge in competing with firms in their home market, as well as with indigenous firms abroad. According to this theory, the non-U.S.-based multinational corporations have superior technology or product differentiation which enable them to compete in markets around the world. Therefore, it is plausible that they would operate in monopolistic industries at home and abroad.

Caves (1971) argues that monopolistic advantages, which are created by both advertising and R&D investments, characterize not just specific firms but rather firms within oligopolistic industries. In fact, Gruber et al. (1967), Caves (1974), Severn and Laurence (1974), and Mansfield, Romeo and Wagner (1979) reported that foreign direct investment tends to be associated with R&D intensity at the industry level. Knickerbocker (1973) also showed evidence that the timing of U.S. MNCs’ foreign direct investments is largely determined by their oligopolistic reaction to competitors’ investments. In a similar context, Vernon (1974) and Graham (1978) suggest that reverse foreign direct investments (RFDI) are the reactions of non-U.S.-based MNCs to the FDI done by U.S.-based MNCs. Flowers (1976) suggests that the timing of European and Canadian FDI in the U.S. can be explained by oligopolistic reactions. If this line of reasoning is valid, it is expected that RFDI will be heavy in R&D and advertising-intensive U.S. manufacturing industries, because these industries invest abroad more extensively than others.

The product cycle theory of Vernon (1966) suggests that new products are likely to be discovered and initially produced in the U.S. market due to the unique characteristics of the U.S. economy, such as higher per capita income, ease of access to the market, and efficient communication process. Subsequently, other industrialized nations’ markets (e.g., Europe or Japan) will be served by export, and then be followed by production in these industrialized nations. The production location would ultimately move, via European industrialized countries, to less developed countries (LDCs) with lower labor and/or production costs, and the U.S. will import from these countries. It is plausible that, as the export market to the U.S. grows and trade protectionism increases, foreign multinationals of newly industrialized countries (e.g., Korea or Taiwan) may invest in the U.S. market, even if labor costs are generally higher in the U.S. than LDCs.

Several studies [e.g., Bain (1956), Camanor and Wilson (1967), and Mueller and Rogers (1980)] have concluded that a significant barrier to entry in U.S. manufacturing industries is product differentiation. R&D outlays and depth of advertising expenditures tend to establish and promote product differentiation.