

Dynamics of Japanese MNEs and the degree of connection with home.

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Abstract

This paper examines the FDI entry and exit behavior of Japanese multinational enterprises (MNEs) in foreign markets using firm-level panel data for the period of 1995-2015. We construct “sales verticalness” and “purchase verticalness” for each country, a novel index to measure the degree of connection with Japan in terms of overseas affiliate sales and procurement, and present several stylized facts. Unlike exporter dynamics, the exit rates of FDI are much lower and increase with market-specific age implying larger sunk costs pertaining to FDI. At country level, the exit rates of FDI increase with distance whereas entry rates show no correlation. Sales verticalness declines with distance exhibiting gravity while purchase verticalness does not. Probit regression analysis of firm entry and exit of FDI reveals that a firm’s past experience of exporting raises the probability of FDI entry and lowers the probability of exit in the region implying that learning by exporting reduces the uncertainty entailing FDI. Sales verticalness promotes entry and lowers exit propensity after controlling country characteristics such as GDP and distance. In contrast, purchase verticalness discourages entry and raises exit propensity. It is important for policymakers to look at the sales verticalness of a target country if their aim is to promote Japanese FDI there.

Keywords: multinational enterprises, foreign direct investment, firm entry and exit, intrafirm trade

JEL Classification: F10, F14, F21

1. Introduction

Multinational production is considered to be an important driver of global production and international trade (Antràs and Yeaple, 2014). An important aspect of multinational enterprises (MNEs) behaviour is the pattern of entry and exit in foreign markets. Although such dynamics has been studied extensively for exporters, there has been a limited focus on MNEs. To the best of our knowledge, Gumpert *et al.* (2020) is an exemplary exception.

In approaching the dynamics of foreign direct investment (FDI) entry and exit, a natural question arises about the determinants of MNEs behavior. A usual distinction is made about the motive to serve the foreign market: market-seeking versus efficiency-seeking. Nonetheless, when an MNE decides how to operate in the foreign market, it should consider its sales and production structure, which may need to purchase inputs from the FDI source country, along with sales of output back to the source country. Therefore, the motive of operation may not be limited to the market seeking and efficiency-seeking behaviour.

The objective of this paper is two-fold. First, our paper unveils various patterns of FDI entry and exit using Japanese micro-level data. Second, the paper attempts to reconcile the motive of FDI operation as a function of sales and purchases behavior with respect to the FDI's home country (Japan). From the theoretical point of view, the traditional proximity-concentration framework focuses on the so-called horizontal FDI (Helpman *et al.*, 2004). Within this framework, a firm that establishes a foreign affiliate seeks to decrease its trade costs, and therefore substitutes export activity by multinational production activity. This is the market-seeking motive of FDI entry and operation. In such a case, trade costs should stimulate horizontal FDI. Alternatively, a firm may seek to decrease its variable costs of production, and thus moves a part of its production activities to the countries with low production costs. This is the efficiency-seeking or so-called vertical FDI. One would expect that such affiliates sell a high share

of their output back to the source country. Interestingly, however, affiliates may need to source inputs from their parents or from the home country. As Irarrazabal *et al.* (2013) show, such intra-firm trade from parent to affiliate is an important mechanism that can explain a decrease of FDI activity with distance.

Therefore, when MNE's decide to operate in the foreign market they may consider a more complicated production and trade structure, which cannot be defined as solely the market-seeking or solely the efficiency-seeking motive. We conjecture that expected affiliates' sales to and from the home country, and the associated costs of such production structure play an important role in the decision where to locate foreign affiliate.

In this paper we provide an extensive examination of FDI entry and exit behavior of Japanese MNEs. Our rich micro-level data allow us to examine both extensive and intensive margins of Japanese affiliates behaviour. We unveil several features in regards to the dynamics of Japanese foreign affiliates. Japanese firms entry rate is decreasing in distance while exit rate is increasing in distance. The affiliates survival rate with respect to age reveals negative, close to linear, functional relationship rather than exponential decay, which is typically observed for exporters.

We augment this analysis by introducing two country-level measures of the sales and purchase patterns with respect to the home country: "sales verticalness" and "purchase verticalness". These measures are aimed at capturing both extensive and intensive margins in the behavior of Japanese affiliates. Sales verticalness measures a tendency of a country to host affiliates that sell most of their output to Japan as opposed to affiliates that sell most of their output locally or to third countries. Purchase verticalness of a country measures its tendency to host affiliates that purchase most of their inputs from Japan as opposed to those who purchase most of their inputs locally.

By examining these two country-level measures we document that on average Japanese affiliates tend to be located in countries with the majority of affiliates selling and purchasing locally. Nevertheless, the distribution of sales to and purchases from Japan

is bimodal, implying that there is a significant number of affiliates that sell a high share of output back to Japan and purchase a high share of input from Japan. Such multi-dimensional behavior of Japanese affiliates was also documented in Baldwin and Okubo (2014).

Finally, we conduct an empirical analysis of the effect of sales and purchase verticalness on FDI entry and exit decision by Japanese MNEs. The results show that these countries' characteristics are important determinants of the MNEs' decisions to operate in a market. Sales verticalness encourages FDI entry and discourages FDI exit, while purchase verticalness works in the opposite direction: decreases the probability of FDI entry and increases the likelihood of FDI exit. We conjecture that by examining the behavior of exiting affiliates at destination, MNEs can reveal the potential for the future production structure and the costs associated with their future activities. Therefore, sales patterns of other firms' affiliates serve as a signal that affects firm's decision where to locate foreign affiliate.

This paper brings two important innovations to the existing literature. First, it extends the understanding of the dynamics of FDI entry and exit for Japanese affiliates. Second, it emphasizes the importance of sales and purchases verticalness in the decision to operate in the foreign market. Our unique micro-level data allow us to test and confirm this hypothesis.

The paper is structured as follows. Section 2 describes our data, followed by the overview of FDI dynamics in Section 3. Section 4 describes our empirical methodology, and Section 5 presents the results and discussions. Section 6 concludes.

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