China Economic Review 25 (2013) 1–16

Contents lists available at SciVerse ScienceDirect

China Economic Review

Is foreign direct investment to China crowding out the foreign direct investment to other countries?

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ARTICLE INFO

Article history:
Received 27 March 2012
Received in revised form 4 December 2012
Accepted 10 December 2012
Available online 20 December 2012

JEL classification:
F21
F36
F41

Keywords:
Foreign direct investment
China
Multinational firms' location choice

ABSTRACT

We estimate a theory-based modified gravity model to analyze the effects of foreign direct investment (FDI) to China on FDI to other countries over the period 1990–2004. Our results suggest that on average, *ceteris paribus*, FDI flows to China have been complementary to FDI flows to other countries. However, these complementarities exhibit a decreasing trend over time and vary between and within country groups. Furthermore, our results suggest that while the FDI to China has encouraged both horizontal and vertical FDI to other countries, these FDI complementarities have been strongest in the case of vertical FDI.

1. Introduction

In this paper we examine whether and to what extent the surge of the foreign direct investment (FDI) in China in recent years has come about at the expense of FDI inflows into other recipient countries.

China has recently become a leading destination for FDI. In a recent survey on FDI prospects, transnational companies rank China as one of the most attractive global business locations (UNCTAD, 2007). In 2003, China overtook the US as the prime destination for FDI (Prasad & Wei, 2005). Currently, China is the largest recipient of FDI in the developing world (UNCTAD, 2011). The share of China in the world FDI inward stock increased from 1% in 1990 to 3% in 2010. The success of China in attracting FDI has raised concerns that it may have been at the expense of other countries and regions. For example, over the same period, the share of developed economies in FDI inward stock has declined from 75.1% to 65.3%. The European Union countries — which account for the largest share of FDI inward stocks to developed countries - experienced a slight decline of their share in the world FDI inward stock from 36.6% in 1990 to 36.0% in 2010.[2]

This surge of FDI in China has followed the opening up of its economy to the world economy, and the selective easing of capital controls, while the main motivation driving these inflows of foreign investments is the availability of a large pool of low-cost labor

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[2] Own calculations based on data from UNCTAD (2011).

1043-951X/$ – see front matter
http://dx.doi.org/10.1016/j.chieco.2012.12.003

force (Prasad & Wei, 2005). However, in recent years there has been a shift of inward FDI in China towards high-tech industries and services (UNCTAD, 2011). Much of it focuses on the domestic market (Branstetter & Lardy, 2006).

This paper aims to provide empirical evidence to answer these concerns, focusing on the impact of FDI in China on FDI in other countries, with a special focus on the EU countries, and, in particular, of new EU countries in Central and Eastern Europe (CEE), given the role played by FDI in their efforts to modernize their economies and the similarities between CEE countries and China (Fung, Korhonen, Li, & Ng, 2008). The research questions addressed in this paper are the following: Is there a *China effect* on FDI inflows into other countries and particularly into EU countries? Is this effect positive or negative? Has it changed over time? Does it differ for horizontal and vertical FDI, and finally, does this effect differ across host countries?

Previous analyses have focused on the effects of FDI in China on developing countries, in particular the Asian countries and the Latin America and Caribbean (LAC) ones (Cravino, Lederman, & Olarreaga, 2007; Eichengreen & Tong, 2006a, 2006b; García-Herrero & Santabárbara, 2007). To the best of our knowledge, this is the first in-depth analysis of the effects of FDI in China on the FDI inflows into EU countries.

Our results suggest that on average, *ceteris paribus*, FDI inflows into China have been complementary to FDI inflows into other countries. This complementary effect is less intense in the EU than in the other recipient countries; it exhibits a decreasing trend over time and varies across countries. Furthermore, our findings suggest that complementary relationships with China are more likely to occur in countries that attract high levels of vertical FDI in comparison with countries where horizontal FDI dominate.

The remainder of this paper is organized as follows. Section 2 discusses the theoretical and empirical background for our analysis. Section 3 explains our empirical strategy and the model specifications. In Section 4 we describe the data set that we use. The results of our empirical analysis are presented and discussed in Section 5. Finally, we summarize our findings and conclude in Section 6.

2. Theoretical and empirical background

The theoretical framework of our analysis is the theory of multinational enterprises (MNEs), which has been formalized in several seminal papers by Markusen (1984, 1995), Helpman (1984), and Markusen and Venables (1997, 1998). The theoretical models of MNEs explain the volume of FDI as a function of characteristics of the parent and host countries such as size, relative endowments, and transaction costs.

The theoretical literature distinguishes between foreign direct investment driven by "horizontal" and "vertical" motivations. Horizontal MNEs, or "market-seeking" FDI, produce the same goods and services in multiple locations, while vertical MNEs, or "efficiency-seeking" FDI, entail the geographic fragmentation of production into stages. Models of horizontal MNEs (Horstmann & Markusen, 1987, 1992; Markusen, 1984; Markusen & Venables, 1998, 2000) predict that MNEs will concentrate production in large countries and in countries with similar relative endowments, while models of vertical MNEs (Helpman, 1984; Helpman & Krugman, 1985) predict that MNEs production will locate in relatively labor-abundant countries. It follows that while horizontal FDI is likely to dominate in bilateral investment flows between industrialized countries, vertical FDI is likely to dominate between developed – where headquarters are located – and developing countries, which instead host the production activity, as several empirical analyses demonstrated (Brainard, 1997; Markusen & Maskus, 2002).

An integrated treatment of horizontal and vertical FDI was developed by Markusen, Venables, Eby Kohan, and Zhang (1996) and Markusen (1997).[3] This approach was then tested empirically by Carr, Markusen, and Maskus (2001) who showed that both horizontal and vertical investments are important and related to parent and host country characteristics. In particular, their findings suggest that outward FDI from a parent to a host country increases in the sum of their economic size, the relative skills abundance of the parent country and the interaction between size and relative endowment differences.

In this theoretical framework, competition among host countries for inward investments has never been considered, though the issue seems to be interesting at least from a development perspective. In order to find some conceptual considerations about FDI competition we build on the international business approach to FDI (Dunning, 1973). This strand of literature formalizes the determinants of the decisions of firms to go abroad, with particular emphasis on the choice of mode of entry and of location. According to this literature, competition may arise when FDI inflows into one country divert FDI inflows from another country. Should this occur, it would not be due to resource constraints, rather because of market reasons as argued by Zhou and Lall (2005).[4] Moreover, the intensity of such a competition is likely to vary considerably according to the motivations of becoming multinational. Horizontal FDI aims at increasing market shares or exploiting specific agglomeration economies. It would therefore flow towards those countries where industrial activity and demand are higher. This implies that inflows of FDI in one country, which offers an attractive large domestic market should not preclude investments in other countries, provided that they also posses large and well developed markets. Since horizontal FDI tends to produce for local markets, country competition does not seem to be likely.

[3] This integrated approach, known as the knowledge-capital model, is a combination of the horizontal and vertical models. Consequently, the effect of differences in factor endowments – proxied by labor skill differences – becomes ambiguous due to the interaction with country size. Empirical studies provide support to this model (Bloningen, Davies, & Head, 2003; Braconier, Norback, & Urban, 2005; Markusen & Maskus, 2002).

[4] Competition in any resource flow may obviously occur when the resource in question is available in limited amounts. However, this "zero-sum" hypothesis is difficult to justify in the case of FDI. FDI represents only 12.6% of global gross domestic capital formation (UNCTAD, 2007), and additional resources can be easily diverted from domestic resources and other international capital flows should investment opportunities arise. Moreover, multinational firms do not allocate investible funds on a geographical basis in order not to miss profitable opportunities. Finally, if one firm is not able to undertake a foreign investment because of resource constraints, there would be several other firms able to do so. See Zhou and Lall (2005) for a detailed discussion of these issues.