



# China's outward foreign direct investment and domestic investment: An industrial level analysis



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## ABSTRACT

In the past decade, China's outward foreign direct investment (FDI) has increased significantly. On the other hand, the Chinese economic growth model is heavily reliant on domestic investment. Our study examines the important issue of how China's domestic investment responds to its FDI outflows. We investigate this issue analyzing, for the first time, China's domestic investment at industrial level. We specifically account for the factor of government support given the significant role played by the state in the Chinese economy. Using industrial level data, we further evaluate whether domestic investment reacts to outward FDI differently between state dominated and non-state dominated industries. Our study adopts an accelerator model where the system-Generalized Method of Moments (GMM) is employed for our estimations. Our empirical results suggest that domestic investment responds positively to outward FDI in China. Furthermore, the FDI outflows influences domestic investment differently depending on the level of government support in the particular industries. Such influence is much stronger in state dominated industries than in the non-state dominated ones.

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## 1. Introduction

Since its reform and opening-up policy was implemented in 1978, China has been attracting foreign direct investment (FDI) from the rest of the world and has become one of the world's largest FDI destinations. In the past decade, however, a new trend has emerged: there has been a dramatic increase in China's outward FDI (OFDI), especially after the national policy of encouraging domestic investment to "go out" in 1999 (see Table 1). In 2013, China ranked as the world's third largest source of FDI flows, after only the US and Japan.

The Chinese growth model relies heavily on the accumulation of domestic investment (Lee, Syed, & Liu, 2013). Naturally, an important question relevant to policy makers is that of how China's domestic investment responds to this rising OFDI. Various theories have been developed by researchers explaining the possible influence of OFDI on domestic investment. For instance, overseas investment may direct scarce financial resources abroad and is thus likely to reduce concurrent domestic investment (Stevens & Lipsey, 1992). On the other hand, as explained by Desai, Foley, and Hines (2005), when firms combine home with foreign production, the production costs may be reduced and hence the return to domestic production increased. Thus OFDI would stimulate domestic investment. However, more recent studies (e.g. Al-Sadig, 2013; Arndt, Buch, & Schnitzer, 2007; Hejazi & Pauly, 2003) suggest that the combination of home and foreign production may entail a variety of potential impacts by OFDI on domestic investment,

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**Table 1**

China's OFDI and domestic investment (2003–2013).

Year	China OFDI (10,000 USD)	China OFDI/GDP (%)	Domestic investment (10,000 USD)	Domestic investment/GDP (%)
2003	285,465	0.17	67,134,227	40.91
2004	549,799	0.28	85,148,000	44.08
2005	1,226,117	0.54	107,256,428	48.00
2006	1,763,397	0.65	134,279,820	50.85
2007	2,650,609	0.76	172,262,224	51.66
2008	5,590,717	1.24	227,285,639	55.03
2009	5,652,899	1.13	323,392,032	65.88
2010	6,881,131	1.16	407,146,831	69.27
2011	7,465,404	1.02	460,129,995	65.84
2012	8,780,353	1.07	580,130,984	72.20
2013	10,784,000	1.17	689,546,772	76.52

Note: China's OFDI data are collected from the *Statistical Bulletin of China's Outward Foreign Direct Investment (2003–2013)* (Ministry of Commerce). GDP and domestic investment data are collected from *China Statistical Yearbook* (various years).

depending on the motives for the overseas investment. Referring to the four OFDI motives identified by [Dunning \(1993\)](#) (resource-seeking, market-seeking, efficiency-seeking and strategic asset-seeking), they point out that OFDI could influence domestic investment positively, neutrally, or negatively. The question therefore is: does China's overseas investment crowd out or crowd in the domestic investment? If the latter is true, fast-growing OFDI implies even more domestic investment, making China's shift from an investment-led to a consumption-led growth model even more challenging. If the former is true, then China's OFDI would ease the pressure on domestic investment accumulation, acting as an additional stimulus to China's shift to a more consumption-dependent economy. Thus, given China's fast-growing OFDI and its current domestic investment-reliant growth model, a careful investigation of the impact of OFDI on domestic investment is warranted.

For developing countries, the impact of OFDI on domestic investment has been empirically analyzed by many studies. Recent reviews by [Arndt et al. \(2007\)](#) and [Al-Sadig \(2013\)](#) suggest that these studies employ either aggregated macro-level data or firm-level data, and that the results are inconclusive, their impact being variously positive, negative and even zero.

Little attention has been paid to such impact on developing as opposed to developed countries, despite the rising importance of the former as an increasingly important source of FDI. By comparing Thai OFDI and domestic investment for the period 1978–2011, [Sermcheep \(2013\)](#) finds no evidence of a negative relationship between them. [Kim \(2000\)](#) provides a similar comparison regarding Korea for 1978–1995 and reaches the same conclusion. For Malaysia, [Goh and Wong \(2012\)](#) use bound test and find a relative small negative impact of OFDI on domestic investment during 1999–2010.

In the particular case of China, the world's largest developing-country FDI source, [Hong and Sun \(2006\)](#) trace the dynamics of China's overseas investment strategies in both areas of government policy and corporate entrepreneurship. When combined with [Dunning's \(1993\)](#) explanations linking OFDI's impact to the motives for investing abroad, their study helps one understand the impact of China's OFDI on domestic investment. The availability of official data on OFDI only from 2003 is partly responsible for the fact that there is, to our knowledge, only one empirical study ([Choy, Ho, & Mak, 2009](#)) examining how OFDI influences direct investment in China. These authors analyze the impact of OFDI on domestic capital stock using provincial data covering the period 2004–2007. Using fixed effects, they find that the coefficient of OFDI is positive but statistically insignificant. Our study is therefore motivated not only by the importance and the relevance of how China's domestic investment responds to its OFDI, but also by the paucity of literature empirically examining this issue.

Specifically, our study contributes to the existing sparse literature on China in the following three ways. First, we investigate how China's domestic investment responds to OFDI through a fresh industrial perspective. The vast majority of previous studies are firm-level or aggregate analyses. The former may only allow limited inference from a macroeconomic perspective and for policymakers ([Arndt et al., 2007](#)), while aggregate data would not support any meaningful examination since official statistics regarding China's OFDI is, as has been noted, only available from 2003. On the other hand, industry-level analysis for China could address both issues, and it is therefore advocated by recent studies for developed countries (e.g. [Arndt et al., 2007](#); [Braunerhjelm, Oxelheim, & Thulin, 2005](#); [Hejazi & Pauly, 2003](#)). For the first time, therefore, our study adopts an industrial perspective to investigate the impact of OFDI on domestic investment in the particular case of China.

The second way in which our study adds to the literature on the subject is that, despite the emergence of a market system, the legacy of significant governmental involvement in business affairs is still strong in developing nations such as China ([Luo, Xue, & Han, 2010](#)). For instance, both at firm level, [Wang, Hong, Kafouros, and Boateng \(2012\)](#) find that the level of government ownership an important driver of China's OFDI and [Amighini, Rabbellotti, and Sanfilippo \(2012\)](#) find that government ownership affects the destinations of China's overseas investment. Our study therefore emphasizes the role of government ownership in each industry. More importantly, it examines how the level of government ownership influences the mechanisms through which OFDI affects domestic investment. Specifically, we use industrial-level data to incorporate government ownership in each industry as one important determinant of domestic investment; we further classify our sample industries according to the level of government ownership so as to evaluate whether the impact of OFDI on domestic investment varies by industry.

Thirdly, as pointed out by [Al-Sadig \(2013\)](#), estimating the impact of OFDI on domestic investment raises the familiar problem of endogeneity. The endogeneity of OFDI arises because factors such as domestic business conditions and home government policies that influence firms' overseas investment decisions may also affect the rate of domestic investment. Consequently, we apply the

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