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Has China Displaced the Outward Investments of OECD Countries?

Shujie Yao and Pan Wang

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Shujie Yao is Professor of Economics and Chinese Sustainable Development, Head of the School of Contemporary Chinese Studies, University of Nottingham; and Special Chair Professor of Economics, Xi'an Jiaotong University, China.

Pan Wang is a Trust Manager of the Pingan Trust of China Pingan Conglomerate.

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Abstract: As China has rapidly emerged as one of the world's largest investors abroad, there has been a hectic debate in the literature on whether its emergence as a major foreign investor may have undermined the importance of western industrialised economies, including those in the Organisation for Economic Cooperation and Development (OECD). This paper aims to investigate whether this is the case. The study uses a panel dataset covering 155 countries, including 33 in the OECD, where China had invested during 2003-09. This is by far the most comprehensive dataset of China's outward foreign direct investment (OFDI). A two-stage least squared (TSLS) regression approach is adopted for our econometric models according to an established augmented gravity model in the literature. The empirical results show clear evidence that China's OFDI displaces that of the OECD countries, but the argument that China's emergence is a 'new colonialism' is not supported as OECD countries' OFDI in resource abundant host countries, particularly that in Africa and Latin America, does not appear to have been displaced by China's OFDI.

Outline

Non-Technical Summary

China's outward foreign direct investments (OFDI) have grown exponentially over recent years. In 2010, China accounted for 5.1% of global FDI flows. It was ranked the 5th largest foreign investor in the world and the largest among all the developing countries (MOFCOM, 2010). In that year, China's total outward investments amounted to $69 billion, accumulating total stock to $317 billion. The United Nations Conference on Trade and Development (UNCTAD) has reported that China will become the second largest FDI source country after the US before 2015.

China's rapid emergence as a major investor abroad has triggered increasing anxiety in the world (*The Economist*, 2008). In fact, China's overseas investments may have a widespread impact on both host and home countries of FDI.

However, some FDI host countries have expressed concern over the expansion of China's investments, made largely by its state-owned enterprises (SOEs) whose investment motivation may have a political component.

As for the recipient countries of FDI, Chinese capital may well lead to displacement of their investments and intensify competition (*The Economist*, 2010). Rosen and Hanemann (2009) explicitly point out that China is capable of challenging the existing foreign investment pattern, resulting in a powerful impact on international politics and foreign relations. China's Western rivals fear being crowded out of foreign markets because Chinese firms are backed by the government with low-cost credits and soft budget constraints seemingly without limits (Yao, et al., 2010).

As the world's dominant FDI source countries, members of the Organisation for Economic Cooperation and Development (OECD) may be the most affected by China's rapid rise as a business superpower. Outward investments by OECD countries grew at less than a quarter of China's rate during the period 2003-2009.

The key research question in this paper is whether China's OFDI has had any displacement effect on that of other countries, especially those in the OECD.

Following Greenaway et al. (2008), a panel dataset covering 155 countries, including 33 in the OECD where China invested over 2003-09, is used to construct a gravity model to achieve the research objectives outlined above. A two-stage least squared (TSLS) estimation approach is adopted to overcome the endogeneity problem that may be encountered by the Ordinary Least Squared (OLS) method.

The empirical results show that China's OFDI does displace that of the OECD countries in a third country in general, but the finding depends on the validity of the instrumental variable (IV). This negative causal effect implies that a 10% rise in China's OFDI leads to a more than 3% decrease in the OFDI of the OECD countries.

It is interesting to find that contrary to the often-heard 'new colonialism' argument, China's OFDI does not displace the OFDI of the OECD countries in oil and minerals (e.g., iron ores) abundant host countries or in Africa and Latin America. In contrast, the displacement effect in host countries that are less abundant in oil and minerals or located in Asia, Europe and North America is significant and positive.

1.   Introduction

China's outward foreign direct investments (OFDI) have grown exponentially over recent years (Figure 1). The United Nations Conference on Trade and Development (UNCTAD) has reported that China will become the second largest FDI source country after the US before 2015.

In 2010, China accounted for 5.1% of global FDI flows. It was ranked the 5th largest foreign investor in the world and the largest among all the developing countries (MOFCOM, 2010). In that year, China's total outward investments amounted to $69 billion, accumulating total stock to $317 billion.

Figure 1 China's OFDI flow and stock values 1991-2010 ($ billion)
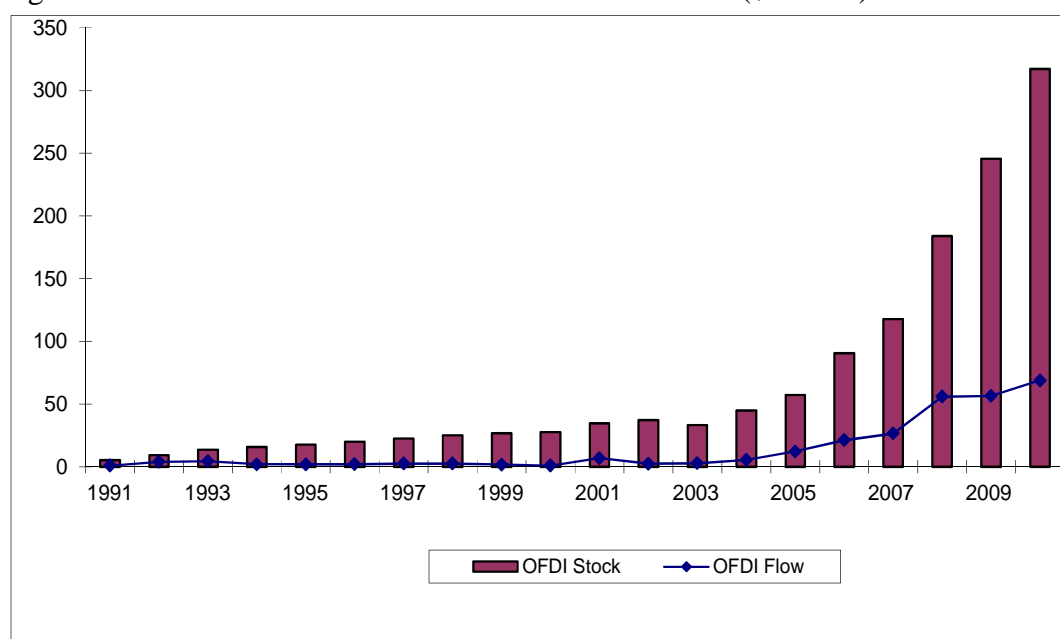
Sources: Data for 1991-2002 are obtained from UNCTAD, *World Investment Reports* (various issues). Data for 2003-2010 are obtained from MOFCOM (2011), *Statistical Bulletin of China's Outward Foreign Direct Investment*.

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As the world's dominant FDI source countries, members of the Organisation for Economic Cooperation and Development (OECD) may be the most affected by China's rapid rise as a business superpower.[1] Outward investments by OECD countries grew at less than a quarter of China's rate during the period 2003-2009.

The key research question in this paper is whether China's OFDI has had any displacement effect on that of other countries, especially those in the OECD. A preliminary examination of Figure 2 may show such evidence. The OFDI share of OECD countries in the global total decreased alongside an increase in China's share.

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[1] To illustrate the effect of China's OFDI on the world, the OECD countries are selected for two reasons. First, the OECD has a rich dataset covering many bilateral investment flows between its member states and other countries, including China for a long period of time. Second, the OECD countries had an average share of 84% of the global OFDI during 2003–2009.

Figure 2 The share of OECD countries and China in world OFDI
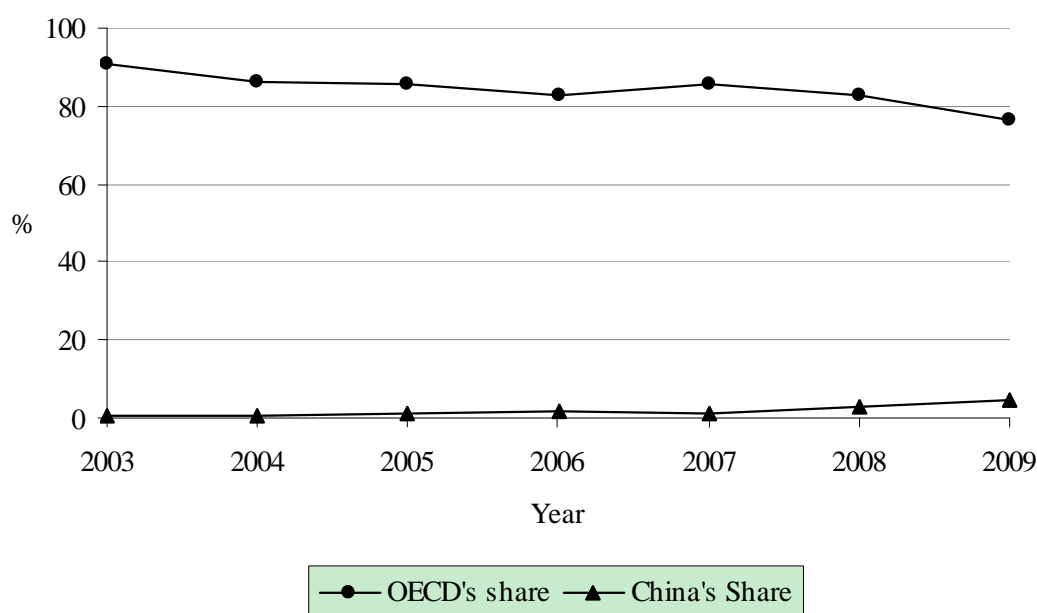
Whether this evidence is statistically significant requires much more careful econometric analysis, which is the main objective of this paper. In addition, the empirical models will help in identifying the key determinants of China's OFDI and to differentiate its impact on the different kinds of host and home countries of foreign investments.

Existing studies on China's OFDI have mainly focused on locational determinants with limited data availability and over a relatively short period of time (Buckley et al., 2008; Cheung and Qian, 2009). In terms of research methodology, Greenaway et al. (2008) find evidence of China's exports having a displacement effect on those of other Asian countries.

Following Greenaway et al. (2008), a panel dataset covering 155 countries, including 33 in the OECD where China invested over 2003-09, is used to construct a gravity

model to achieve the research objectives outlined above. A two-stage least squared (TSLS) estimation approach is adopted to overcome the endogeneity problem that may be encountered by the Ordinary Least Squared (OLS) method.

The empirical results show that China's OFDI does displace that of the OECD countries in a third country in general, but the finding depends on the validity of the instrumental variable (IV). This negative causal effect implies that a 10% rise in China's OFDI leads to a more than 3% decrease in the OFDI of the OECD countries.

Some sensitivity analysis and robustness tests are also carried out to investigate whether and how the displacement effects may vary in different kinds of host and home countries of FDI.

It is interesting to find that contrary to the often-heard 'new colonialism' argument, China's OFDI does not displace the OFDI of the OECD countries in oil and minerals (e.g., iron ores) abundant host countries or in Africa and Latin America. In contrast, the displacement effect in host countries that are less abundant in oil and minerals or located in Asia, Europe and North America is significant and positive.

This paper is organised as follows. Section 2 reviews the development of China's OFDI. Section 3 introduces the basic model and discusses the data and regression techniques. Section 4 presents the regression results and their implications. Section 5 carries out some robustness checks on the basic model. The final section concludes and discusses policy implications.

2. Background of China's OFDI

China has achieved great economic success since 1978. Its annual average growth rate of gross domestic product (GDP) was 9.9% during the period 1978-2009. By 2010, China overtook Japan as the world's second largest economy and is now set to surpass the US to be the largest before 2025.

Meanwhile, China's foreign exchange reserves have increased rapidly, amounting to $3.2 trillion by 2011 (Figure 3).

Figure 3 China's GDP and foreign exchange reserves (US$, bil)
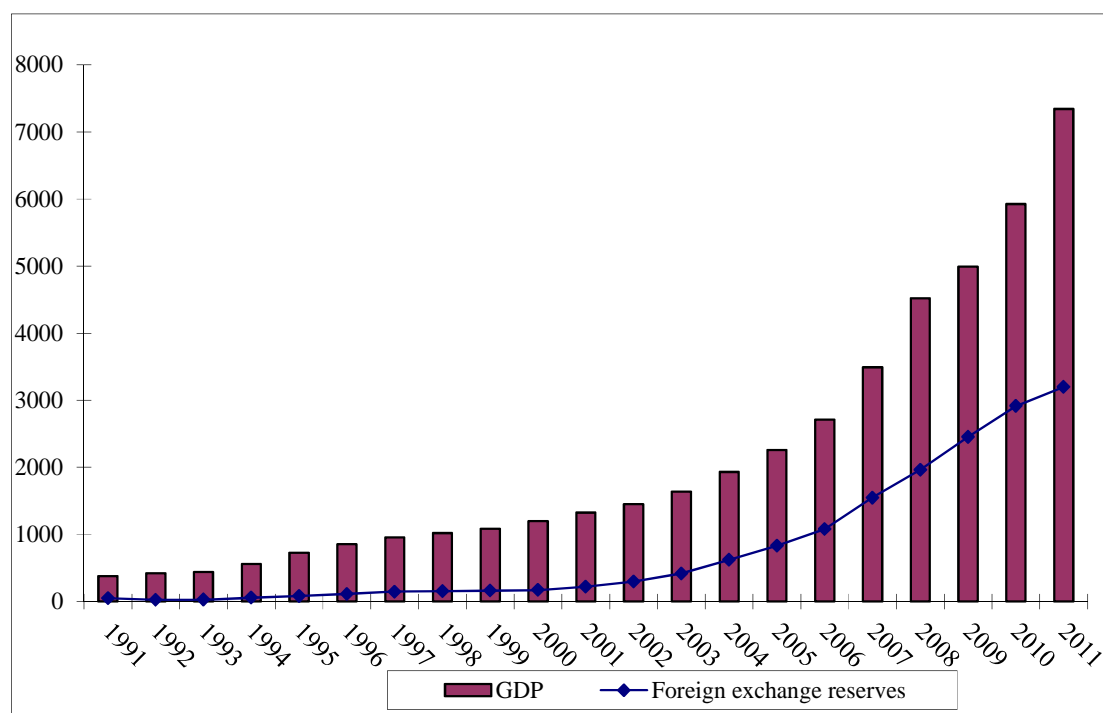
Data Source: World Bank's *World Development Indicators* (various years).

Fast economic development has raised China's desire for advanced technology. The acquisition of IBM's PC business is a stunning example, followed by the acquisition of Rover by Nanjing Auto and the acquisition of Volvo by Geely Auto. China's foreign investments have also been extended to securing the supply of oil and other

resources from Australia, Africa, Latin America, the Middle East, Russia and Central Asia.

Although China is emerging as a significant source of OFDI, the development of its OFDI has a short history. In the initial stage, China's OFDI was mainly motivated by political rather than economic incentives (Cheung and Qian, 2009; Voss *et al.*, 2008). OFDI activities were promoted by both central and local administrations after Deng Xiaoping's South Tour in 1992. The launch of the 'Go Global' policy in 2002 and China's accession to the WTO in 2001 boosted overseas investments. The OFDI policy was further liberalised from an approval regime to a supervision and assistance regime by the Ministry of Commerce (MOFCOM).[2]

The annual average growth rate of China's OFDI was 71% during 2003-09, four times as high as the world average.[3] Yao and Sutherland (2009) and Xiao and Sun (2005) point out that the rapid expansion of China's OFDI was due to state policy to substantially subsidise state-owned enterprises (SOEs) through cheap credits and soft-budget constraints to secure a long-term and stable supply of natural resources.

China's rising importance as a foreign investor has been interpreted as a threat rather than an opportunity to other countries in the West. *The Economist* (2008), for instance, claims that Chinese investments are undermining the West's existing interests, and that China is stealing natural resources and colonising Africa.

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[2] MOFCOM was established from the former the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) in 2003.
[3] The growth rates are calculated by the authors. Data of China's OFDI are obtained from MOFCOM (2009). Data of the world's OFDI are obtained from UNCTAD *World Investment Report* (*various issues*).

The following sections will answer the following questions: what are the consequences of China's OFDI on the world economy? To what extent has China's OFDI displaced that of the OECD countries?

3. Methodology and models

To examine the impact of China's OFDI on the OFDI of OECD countries in a given host country, the basic gravity model includes the OFDI of OECD countries as the dependent variable and China's OFDI as the main explanatory variable along with a set of control variables.

The gravity model performs like a workhorse model for many empirical studies on bilateral economic relations, accounting for resistance and friction factors such as distance and language. This kind of model has been criticised for lacking a strong theoretical foundation ever since Tinbergen's (1962) first application to an international trade study, even though it has strong explanatory power in empirical studies.

Most studies have specified the gravity model intuitively, without formal identifications. Following Anderson (1979), an increasing number of studies have sought to explain the success of the gravity model (Bergstrand, 1985, 1989; Evenett and Keller, 2002; Deardorff, 1995; Helpman, 1987; Hummels and Levisohn, 1995).

The gravity model has been applied in the study of the behaviour of China's OFDI in Buckley et al. (2008), and Cheung and Qian (2009). Our benchmark gravity-type specification is given in Equation (1), where β_1 represents the impact of China's

OFDI on the OFDI of OECD countries in a given host country. A negative value of β_1 represents a displacement effect, meaning that the OFDI of OECD countries declines following a rise in China's OFDI.

$$
\begin{aligned}
\ln OECDOFDIF_{jit} = {} & \beta_1 \ln COFDIF_{it} + \beta_2 \ln RGDP_{it} + \beta_3 \ln RGDPPC_{it} \\
& + \beta_4 Techno\log y_{it} + \beta_5 \operatorname{Re} sources_{it} + \beta_6 \ln RGDP_{jt} \\
& + \beta_7 \ln RGDPPC_{jt} + \beta_8 Techno\log y_{jt} + \beta_9 \operatorname{Re} sources_{jt} \\
& + \beta_{10} \ln Exch_{jit} + \beta_{11} \ln Area_{ji} + \beta_{12} Colony_{ji} + \beta_{13} Comcol_{ji} \\
& + \beta_{14} ComLag_{ji} + \beta_{15} Contig_{ji} + \beta_{16} \ln Dist_{ji} + \beta_{17} Smctry_{ji} \\
& + \beta_{18} Trend + \eta_j + \varepsilon_{jit}
\end{aligned}
\tag{1}
$$

In equation (1), j denotes a home (OECD) country, i a host country, and t year. $OECDFDIF_{jit}$ is FDI flow from j to i in t. $COFDIF_{it}$ is FDI flow from China to i in t. $RGDP$ and $RGDPPC$ are respectively real GDP and real GDP per capita. *Technology* means the technology level of i or j. *Resources* refers to whether i or j are resource rich. *Exch* is the bilateral real exchange rate. *Area* is the product of land areas of j and i. *Colony* takes 1 if i and j used to have a colonial relation and 0 otherwise. *Comcol* takes 1 if j and i were ever colonised by the same country and 0 otherwise. *ComLag* takes 1 if j and i share the same language and 0 otherwise. *Contig* takes 1 if j and i are contiguous and 0 otherwise. *Disc* is distance between j and i. *Smctry* takes 1 if j and i were ever the same country and 0 otherwise. ε_{jit} is an error term.

Real GDP is a proxy measure of market size. According to Dunning (1993, 1998), a larger GDP implies a bigger market and more business opportunities in a host country. An increase in a home country's GDP implies a greater capability to invest abroad. Following Braconier et al. (2002), the GDPs of both host and home countries are included in the model to distinguish their different characteristics.

GDP per capita represents the level of economic development (Lipsey, 1999; Lane, 2000; Dunning, 1981, 1995; Dunning et al., 2001). As a result, real GDP per capita of both home and host countries are included in the model to capture the market effects.

China's OFDI has a clear motivation in seeking foreign technologies and brands (Child and Rodrigues, 2005; Mock et al., 2008). According to the OECD (2008), China also uses its technology as an advantage to invest in many African and other less developed countries.

Many empirical studies (Driffield and Love, 2003; Fosfuri and Motta, 1999; Siotis, 1999) have demonstrated that technology-seeking, or technology-exporting are two relevant motivations when investment decisions are made for both host and home countries. This is why our basic model includes variables representing the technology levels of both host and home countries.

The basic model also includes variables that represent the level of resource endowments of both types of countries as these are considered important in some empirical studies (Zhan, 1995; Ye, 1992; Taylor, 2007).

Gastanaga et al. (1998) and Noorbakhsh et al. (2001) emphasise the importance of natural resources in FDI analysis, as resource abundance can be a country-specific advantage in attracting FDI (Dunning, 1993, 1998; Asiedu, 2006; Cheng and Ma, 2007; Park, 2003).

Following Cheung and Qian (2009) and Zhang (2009), the share of fuels, ores and metal exports in merchandise exports is used to represent the resource abundance of a host country.[4]

The bilateral real exchange rates of OECD countries are included to control the host-home country bilateral effect. The bilateral exchange rate is an important determinant of OFDI (Froot and Stein, 1991). Froot and Stein (1991) argue that internal financing is cheaper than external financing in an imperfect capital market, and the appreciation of home currency strengthens overseas activities. Goldberg and Klein (1998) indicate that depreciation of host country currency would attract more investment, because operation costs are lower and capital return higher.

Other researchers argue that appreciation of home country currency may reduce OFDI. Cushman (1985) and Summary and Summary (1995) argue that if a home country's subsidiaries need to import intermediate goods from the home country, currency appreciation in the home country would make imports more expensive and thus reduce OFDI. Goldberg and Klein (1998) also indicate that the depreciation of a home country's currency increases OFDI along the lines of a similar argument.

A wide range of variables are used to measure host-home country bilateral economic friction, including distance, colonial relation, common languages and so on.

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[4] Kolstad and Wiig (2009) illustrated the reasons why natural resources export share was a better proxy than natural resources endowments.

Standard panel estimations rest on a strong assumption of exogeneity and estimations are unbiased only if explanatory variables are exogenous. This assumption is challenged if the explanatory variables are not exogenous.

In this study, unobserved determinants left in the error term may simultaneously affect the OFDI of the OECD countries and China's OFDI in a third country. This means that OLS estimations may be spurious due to an omitted variable bias.

To correct this endogeneity bias, an instrumental variable (IV) estimation approach, or a two stage least squared (TSLS) method, is adopted in the regressions. In the first stage, exogenous IVs are included to estimate the predicted value of an endogenous variable, namely, China's OFDI in the host country. The standard TSLS technique includes not only the IVs but also all explanatory variables in the first stage regression.

The predicted value of China's OFDI is included in the second stage regression to obtain consistent estimators. The IV estimator is less efficient than a conventional estimator and the TSLS estimation is redundant if the suspicious independent variable is in fact exogenous. Therefore, an endogeneity test should be conducted first before the TSLS method is applied.

Selection of IVs

The precision of TSLS estimation lies in the appropriateness of IVs. An appropriate IV should not only be econometrically valid but also economically justifiable. The

question here remains whether the causal effect of China's OFDI on OECD's OFDI, after controlling for a heterogeneity bias, connects to the relation between China's OFDI and IVs.

Following Greenaway et al. (2008), the logarithm of China's distance to a third country ($lnChinaDist_i$) is selected as the first IV. The logarithm of China's bilateral real exchange rate with a third country ($lnChinaExch_{it}$) is selected as the second IV to instrument China's OFDI. The advantage of selecting $lnChinaExch_{it}$ as an IV is that its value changes with the host country as well as with time, unlike Greenaway et al. (2008) and Eichengreen et al. (2007), who select China's GDP, which only changes with time.

First IV: China's distance to a third country (lnChinaDist)

The relationship between China's OFDI in a host country and its distance from China could be negative or positive. Buckley and Casson (1981) illustrate that OFDI increases with distance. In contrast, Zhang (2009) and Buckley et al. (2007) find that OFDI decreases with distance. Figure 4 provides a scatter plot of China's OFDI and distance to a third country. It reveals that a rise in China's distance to a third country implies an increasing cost of investment and hence a decline in OFDI.

Figure 4 The relationship between China's OFDI and the distance to a third country
Note: Regression results are significant at the 1% level.

Figure 4 The relationship between China's OFDI and the distance to a third country
Note: Regression results are significant at the 1% level.
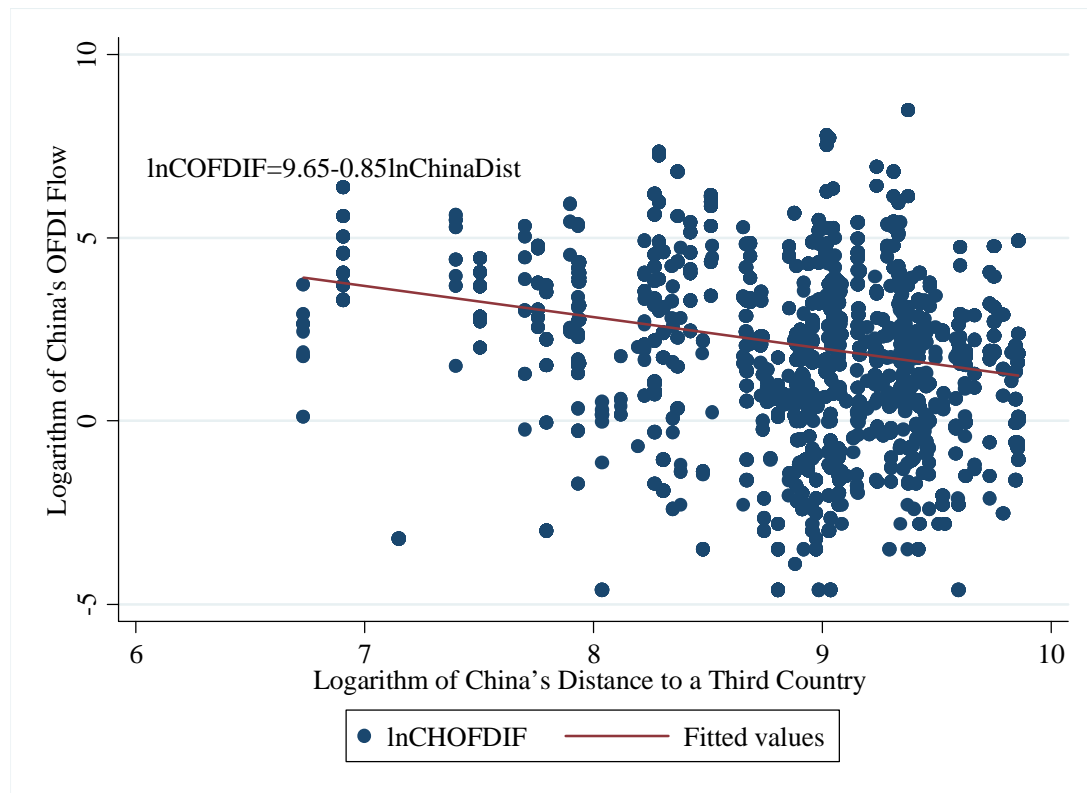
Second IV: China's bilateral real exchange rate (lnChinaExch)

The second IV is included to overidentify the IVs' coefficients; otherwise exact justification implies that IV's exogeneity cannot be tested.

China's bilateral real exchange rate is defined as the number of units of a host country's currency per Chinese RMB, meaning that a rise in its value implies RMB appreciation, and *vice versa*. The relationship between the bilateral exchange rate and FDI has been well documented from the position of three aspects: change, volatility and expectation of the bilateral exchange rate.

The first strand of literature examines the impact of home country currency appreciation and host country currency depreciation on FDI flows (Froot and Stein, 1991; Klein and Rosengren, 1994 and Blonigen, 1997). The second strand of literature investigates the response of FDI flows to exchange rate volatility, especially when a currency is in crisis (Lipsey, 2001; Desai et al., 2004). The final strand of literature studies the response of FDI flows to an expected change in exchange rates (Campa, 1993; Goldberg and Kolstad, 1995). Whether China's bilateral real exchange rate is an appropriate IV is further justified by its relevance and exogeneity. Being a relevant IV, China's bilateral real exchange rate should have a close relationship with OFDI. Figure 5 provides a scatter plot of these two variables, showing a plausible correlation. A rise in the real exchange rate implies RMB's appreciation, resulting from an increase in OFDI.

Figure 5 Relation between China's bilateral real exchange rate and OFDI
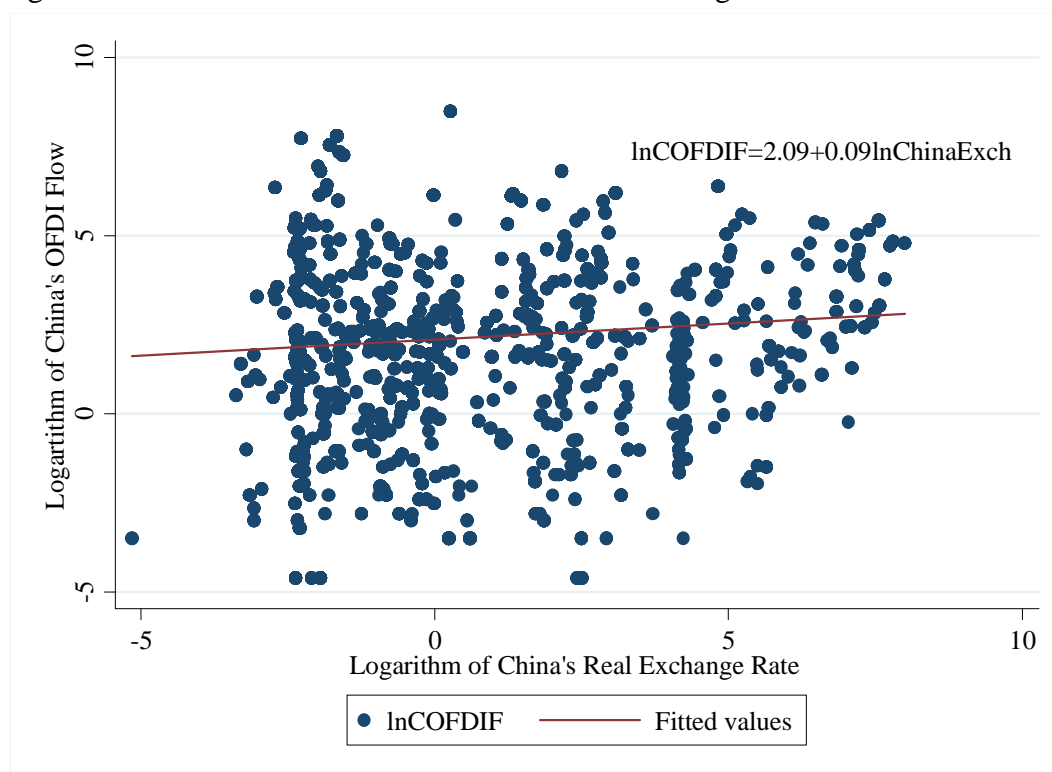
Notes: China's bilateral real exchange rates with host countries are calculated by the authors. Regression results are significant at the 1% level.
Data sources: MOFCOM (2009) and World Bank's *World Development Indicators* (various years).

Exogeneity of the selected IV implies no correlation between the real change rate and the OFDI of the OECD countries. However, this exclusion restriction might be violated if the IV is correlated with other unobserved factors which also affect the OFDI of OECD countries. For example, if the US dollar depreciates against Chinese RMB, it also depreciates against the host country's currency at the same time. Therefore, the IV is only valid when the exclusion restriction assumption holds and the result obtained crucially depends on the assumption of the IV's validity.

To account for this possibility, this study controls for the logarithm of the OECD's real exchange rate with a third country (*lnExch*) in Equation (1). In addition, China's foreign exchange reforms in 2005 serve as an exogenous shock which improves the instrument's exogeneity, because the change in China's exchange rate policy should have little impact on an OECD country's exchange rate with the host country.

In short, the distance from China to a third country and the real exchange rate between Chinese RMB and a third country's currency are valid IVs. Their validity is supported by a series of statistical tests. A sufficiently large first-stage F-statistic indicates that the IVs are exogeneous. The Kleibergen-Paap rk test provides an additional check for under-identification, a strong rejection implying that the IVs are relevant. The failure to reject the Hansen overidentification test ensures that the IVs are uncorrelated with residuals, confirming their exogeneity.

Data and empirical models

The bilateral country-level OFDI data for the OECD countries are obtained from the OECD *International Direct Investment Statistics* database. China's bilateral country-

level OFDI data are obtained from the Ministry of Commerce *Statistical Bulletin of China's Outward Foreign Direct Investment*.

The World Bank's *World Development Indicators* provide data for the following variables: (1) Real GDP and real GDP per capita for both home and host countries, which are deflated to constant 2000 US dollar prices; (2) Technology and resource abundance; (3) Bilateral real exchange rates. Data for distance, land area, whether a country is landlocked, colonial links, common coloniser, common language, same country and contiguity are collected from the CEPII *Distances Database*.

A panel dataset of OFDI flows between 155 host countries and 33 OECD home countries during 2003–2009 is constructed. All the host and home countries are listed in Tables A1 and A2 in Appendix A. Mexico is dropped from the home country list because of missing data.

The dataset is cleaned using three criteria: (1) omitting observations with negative or missing data; (2) omitting data from the Cayman Islands, British Virgin Islands, Hong Kong and Macao, which are subject to 'round tripping'; (3) the dependent variable, the OFDI of OECD countries, is winsorised at 1% using the two tails of the distribution. Winsorisation is a systematic approach to remove outliers and so any observation beyond the computed critical value is deleted. The cleaned dataset includes 9,283 observations or 76% of all the original observations without cleaning.

The summary statistics for all variables are provided in Table 1, including OECD's OFDI, China's OFDI, host country and home country characteristics, host-home country bilateral characteristics and IVs.

Table 1 Summary statistics (33 OECD countries, 155 host countries, 2003–2009)

Variable	N	Mean	S.D.	Minimum	Maximum
lnOECDOFDIF	9283	3.47	2.90	-3.82	9.74
lnCOFDIF	7111	2.05	2.47	-4.61	8.48
Host country characteristics (i)					
lnRGDP	8958	11.33	2.03	4.78	16.3
lnRGDPPC	8958	8.59	1.51	4.42	11.33
Technology	8115	0.13	0.13	0	1.00
Resources	8026	0.23	0.26	0	1.00
Home country's characteristics (j)					
lnRGDP	9235	12.87	1.70	8.86	16.26
lnRGDPPC	9235	9.96	0.62	8.31	10.94
Technology	9032	0.17	0.09	0.02	0.57
Resources	8841	0.09	0.09	0.01	0.75
Bilateral characteristics (ji)					
lnExch	7776	1.04	3.46	-8.30	17.78
lnArea	9218	24.25	2.89	11.83	32.72
Colony	9218	0.07	0.25	0	1
Comcol	9198	0.01	0.07	0	1
Comlang	9218	0.10	0.30	0	1
Contig	9218	0.05	0.22	0	1
lnDist	9218	8.20	1.05	4.09	9.89
Smctry	9218	0.01	0.12	0	1
Instruments					
lnChinaDist	9283	8.93	0.55	6.73	9.86
lnChinaExch	8226	0.05	2.61	-5.15	15.07

Notes: N = number of observations. S.D. = standard deviation. Values are measured in current prices in $ million (OECDOFDIF, COFDIF); in 2000 price US dollar (RGDP, RGDPPC); in percentage (Resources, Technology); in units of local currency per OECD country's and China's currency (Exch, ChinaExch); in KM (ChinaDist, Dist); in KM^2 (Area); in binary value (Colony, Comcol, Comlang, Contig, Smctry). Definitions of variables are given to equation (1).
Data sources: OECD's *International Direct Investment Statistics*, MOFCOM (2009), World Bank's *World Development Indicators* (various years), and CEPII (2010).

4. Empirical results

Equation (1) is estimated under various specifications to examine whether and how the results vary with different control variables. Table 2 reports the results.

Model 1 in column (1) shows results using the full sample. The main explanatory variable, China's OFDI, is negative and significant at the 1% level. It suggests that a 10% rise in China's OFDI causes a 1.64% drop in the OFDI of OECD countries. The host country market effect measurements, real GDP and real GDP per capita, are both positive and significant at the 1% level. They imply that the OFDI of OECD countries is driven by the market-seeking motivation, consistent with Dunning (1993, 1998). The home country's real GDP per capita is positive and significant at the 10% level. This reflects the strength of home country to invest overseas as illustrated by Dunning (1981, 1995) and Dunning et al. (2001), although the home country's real GDP is positive and insignificant.

The real exchange rate of OECD countries is negative and significant at the 5% level, consistent with the findings of existing studies which argue that home country currency depreciation helps overseas investments (Cushman, 1985; Summary and Summary, 1995; Goldberg and Klein, 1998). Other bilateral control variables, including colonial link, common coloniser, common language and contiguity, all have positive and significant effect on the OFDI of OECD countries. This positive effect implies that the OFDI of OECD countries is positively correlated with economic approximation. The bilateral distance demonstrates a negative and significant effect.

Table 2 TSLS estimation using full data sample

Dependent:	Model 1		Model 2		Model 3	
	(1)	(2)	(3)	(4)	(5)	(6)
lnOECDOFDIF	Coefficient	S.E.[1]	Coefficient	S.E.[1]	Coefficient	S.E.[1]
lnCOFDIF	-0.164***	(0.058)	-0.373***	(0.073)	-0.344***	(0.080)
Host Country Characteristics						
lnRGDP	0.661***	(0.034)	0.668***	(0.041)	0.697***	(0.055)
lnRGDPPC	0.248***	(0.031)	0.224***	(0.036)	0.191***	(0.039)
Technology			2.631***	(0.306)	2.617***	(0.324)
Resources					0.524**	(0.216)
Home Country Characteristics						
lnRGDP	1.515	(2.643)	0.613	(3.154)	0.194	(3.317)
lnRGDPPC	4.452*	(2.654)	4.737	(3.182)	4.735	(3.277)
Technology			1.274	(0.936)	1.458	(0.948)
Resources					-3.089	(1.909)
Bilateral Characteristics						
lnExch	-0.036**	(0.014)	-0.044***	(0.016)	-0.048***	(0.016)
lnArea	-0.015	(0.021)	0.090***	(0.026)	0.059**	(0.026)
Colony	0.650***	(0.111)	0.705***	(0.130)	0.675***	(0.130)
Comcol	2.707***	(0.437)	3.100***	(0.448)	2.996***	(0.450)
Comlang	0.583***	(0.099)	0.554***	(0.116)	0.543***	(0.117)
Contig	0.308**	(0.137)	0.401***	(0.150)	0.394***	(0.148)
lnDist	-0.720***	(0.043)	-0.652***	(0.051)	-0.680***	(0.051)
Smctry	0.388	(0.269)	0.317	(0.301)	0.325	(0.319)
Number of obs.	5913		5305		5091	
R^2	0.845		0.83		0.84	
Endogeneity test	30.86		62.58		46.33	
p-value	0.00		0.00		0.00	
First stage F-Stat	143.47		110.35		89.39	
Kleibergen-Paap rk	217.78		170.15		141.03	
p-value	0.00		0.00		0.00	
Hansen J-Stat	0.68		1.38		0.01	
p-value	0.41		0.24		0.97	

Notes: [1] Robust standard errors are in parentheses. Each regression includes a time trend as well as the home country dummy. * denotes significance at 10%, ** at 5% and *** at 1%. Definitions of variables are given to equation (1) in the main text.

Model 2 includes host country and home country technology levels apart from those included in Model 1. The results strengthen the replacement effect of China's OFDI on OECD's OFDI, as a 10% rise in the former will now lead to a 3.73% drop in the latter. Host country technology level is positive and significant at the 1% level, implying a clear technology-seeking motivation, consistent with Driffield and Love (2003). In contrast, home country technology level is found to have a positive but insignificant effect.

Models 1 and 2 might be mis-specified as they have not considered the effect of resource-seeking motivation, which is argued to have a strong effect on China's OFDI decision (Yao, et al., 2010). Model 3 adds both the host country and home country resource endowment levels apart from those included in Model 2.

China's OFDI is still found to have a negative and significant effect at the 1% level and its marginal impact on the OFDI of OECD countries is similar to that found in Model 2. The additional explanatory variable, host country resource endowment, is positive and significant at the 5% level, although home country resource endowment is found to have an insignificant effect.

In summary, regression results of the three different specifications of the basic model reveal a significant displacement effect of China's OFDI on the OFDI of OECD countries, with a replacement elasticity ranging from 0.164 to 0.373.

The first stage regression result is reported in Table B1 in Appendix B. Although the first IV, China's distance to a third country (*lnChinaDist*), is negative and significant at the 1% level, the second IV, China's bilateral real exchange rate (*lnChinaExch*), is positive but insignificant. The insignificance of IV might imply that the finding of the displacement effect in Table 2 depends on the validity of IV. To further investigate this displacement effect in the following regressions, the whole sample is split by using different criteria including host country resource endowment, continental location and income level, respectively.

Given the importance of natural resources to China's OFDI (Yao et al., 2010; Buckley et al., 2007), another research question to be asked is whether the displacement effect of China's OFDI on the OFDI of OECD countries in a host country is conditional on oil/ore abundance. To answer question, the whole sample is split into oil/ore abundant countries and countries that are less abundant in oil/ore.[5]

The variation of displacement effect with oil abundance of a host country is first presented in columns (1) and (2) in Table 3a. For oil abundant countries (column 1), interestingly, there is no evidence of displacement effect. The coefficient on China's OFDI is insignificant, meaning that for this group of countries, Chinese overseas investments do not displace those of OECD countries.

There are two possible explanations for this result. Firstly, China's presence in oil abundance countries is resisted by the West (Chen, 2008). China's oil companies are unable to penetrate the most easily extractable countries because the West has had a long held dominance. For instance, Saudi Arabia has a very long and close relationship with the West and oil plays a significant role in their bilateral relationship.

Secondly, China's OFDI in other oil-rich countries that have been placed under punitive sanction regimes by the West has little impact on the OFDI of OECD countries in these particular countries. For instance, Iran has had a poor economic and diplomatic relationship with the US since 1979. The Iranian Revolution and the

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[5] Oil abundance is defined by the share of oil's production in GDP. A host country is oil abundant if this share exceeds its median value; otherwise, it is less oil abundant. Ore abundance is defined by the share of ores and metal exports in merchandise exports, as is in the World Bank *World Development Indicators*. A host country is ore-abundant if this share exceeds its median value.

Iranian hostage crisis led to mutual enmity in the American–Iranian relationship in all areas.

The estimated results for host countries that are less abundant in oil are presented in column (2) in Table 3a. The results show evidence of a displacement effect, as the coefficient on China's OFDI is negative and significant at the 5% level. This implies that a 10% rise in China's OFDI will cause a drop in the OFDI of OECD countries of 6.53%. This displacement effect could be explained as the result of market competition. The market-seeking motivation drives OFDI from China as well as from OECD countries. The displacement effects of China's OFDI on the OFDI of OECD countries in those that are ore-abundant and less-abundant are presented in column (3) and (4) in Table 3a. The results are not dissimilar to those presented in columns (1) and (2) for oil-abundant and oil less-abundant host countries.[6]

Overall, the estimates results in Table 3a indicate that China's OFDI displaces the OFDI of OECD countries in those that are less abundant in natural resources rather than those that are resource abundant.

This finding seems surprising, especially after addressing the importance of China's resource-seeking motivation. The above explanation indicates that the long held dominance of the West serves to restrict China's OFDI in natural resource abundant countries. Of course, China's OFDI might displace the OFDI of certain OECD countries, but there is no systematic evidence of a displacement effect in all countries.

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[6] The interpretation of the insignificant displacement in metal abundant countries needs to be treated with caution because of the failure to reject the endogeneity test.

The displacement effect in countries that are less abundant in natural resources could be driven by the market-seeking motivation.

The whole sample is alternatively split according to host country incomes and continental location in the following regressions to further investigate whether the displacement effect varies with other characteristics. The estimations based on these two criteria in the following examinations have yielded consistent results because these two classifications are closely related. High-income countries are generally located in Europe and North America and low-income countries largely exist in Africa and Latin America.

Columns (5) and (6) in Table 3b report the regression results when the sample is split into high- and low-income countries.[7] The coefficient on China's OFDI is negative and significant at the 1% level, implying that a 10% rise in China's OFDI will cause a 5.32% decline in OECD's OFDI in high-income host countries.

As an important measure of market effect, the higher level of host country income would tend to attract more FDI, be it from China or the OECD. China's market-seeking motivation is indirectly reflected in an empirical study claiming that China's exports displace that of other Asian nations to high-income countries (Greenaway et al., 2008). In addition, the importance of market-seeking motivation is jointly witnessed by China's export-oriented economy and a close relationship between

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[7] The income level is measured by real GDP per capita. A host country is a high-income country if this value exceeds the median value; otherwise, it is a low-income country.

China's OFDI and exports.[8] Therefore, market competition results in a displacement effect of China's OFDI on that of OECD countries in high-income host countries.

Column (6) in Table 3b shows the estimation results for low-income host countries. They show no evidence of displacement effect. It may suggest that low-income host countries may not be attractive to Chinese companies. Less competition between China and OECD for their investments may explain why the displacement effect is insignificant.

Column (7) in Table 3b shows the estimation results for the host countries located in Asia. The displacement effect is significant at the 5% level, implying a 10% rise in China's OFDI will cause a 3.85% drop in Asian OECD countries.

Estimation results for the host countries located in Europe and North America are reported in column (9) in Table 3b. They imply that the displacement effect is significant at the 1% level, meaning that a 10% rise in China's OFDI will cause a 3.55% drop in European and North American OECD host countries by the other OECD countries. These significant displacement effects coincide with the above-mentioned argument, whereby the market-seeking motivation drives Chinese and OECD countries' OFDI to flow into big markets including Asia, Europe and North America.

On the contrary, estimations for the host countries located in Africa, Latin America and Oceania (column 8, Table 3b) do not show any displacement effect. This can be

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[8] In 2009, the rent and business service industry, the wholesale and retail industry and the transportation industry occupied 36.2%, 10.8% and 3.7% of China's OFDI respectively. Overall, 50.7% of China's OFDI was directed to exports-related industries (MOFCOM, 2009).

explained by the joint effect of resource-seeking and market-seeking motivations revealed in columns (1)-(6) in Tables 3a and 3b. Host countries located in these continents, especially Africa, are generally acknowledged as low income with abundant resources. Motivation of market-seeking is relatively weak compared to resource-seeking for Chinese companies.

Besada et al. (2008) suggest that China's OFDI in Africa focuses primarily on obtaining natural resources. Cheung et al. (2011) argue that energy abundance attracts Chinese investments in Africa, whereas Western countries have conventionally invested relatively small amounts to avoid risk. In contrast, the OECD countries' overseas investments may have been motivated by a need for diversification, which explains why China's presence in Africa and Latin America may have little impact on the OECD countries as far as foreign investments are concerned.

In short, the displacement effect is conditional on the host country's incomes and continental location. Market-seeking may drive China's OFDI flow into high-income, Asian, European and North American countries, but there is little evidence of China displacing OECD countries' OFDI in low-income, African, Latin American and Oceanian countries.

Table 3a Regression results of sub-sample countries by natural resource abundance

Dependent:	Natural Resources			
	(1)	(2)	(3)	(4)
	Oil		Metal	
lnOECDOFDIF	Abundant	Less Abundant	Abundant	Less Abundant
lnCOFDIF	-0.051	-0.653**	0.151	-1.099***
Host Country Characteristics				
lnRGDP	0.437***	1.144***	0.545***	1.805***
lnRGDPPC	0.315***	-0.047	0.317***	-0.717***
Technology	1.044***	1.263*	-0.729*	5.041***
Resources	-1.044***	5.125***	-0.573**	2.727***
Home Country Characteristics				
lnRGDP	2.005	-1.233	10.650**	-11.500**
lnRGDPPC	3.442	4.881	-6.311	16.010***
Technology	2.356**	1.073	2.865**	-1.025
Resources	-1.171	-6.312*	-3.738	-0.217
Bilateral Characteristics				
lnExch	-0.022	0.024	-0.026	-0.001
lnArea	0.345***	-0.579***	0.047	-0.647***
Colony	0.364**	1.122***	0.584***	0.981***
Comcol	2.642***	1.621	2.714***	2.004**
Comlang	0.721***	0.001	0.503***	0.554**
Contig	1.104***	0.237	0.026	0.554**
lnDist	-0.983***	-0.777***	-0.987***	-0.617***
Smctry	-0.217	-0.526	-0.650	0.468
Number of obs.	2790	2301	2468	2623
R^2	0.871	0.820	0.875	0.737
Endogeneity test	5.584	14.500	0.000	88.391
p-value	0.018	0.000	0.985	0.000
1st stage F-Stat	135.086	11.410	30.050	31.190
Kleibergen-Paap	220.274	19.450	55.740	54.600
p-value	0.000	0.000	0.000	0.000
Hansen J-Stat	0.602	1.575	0.860	0.647
p-value	0.438	0.209	0.354	0.421

See notes to Table 3b.

Table 3b Regression results of sub-sample countries by income/continent

Dependent:	Income		Continental Location		
	(5)	(6)	(7)	(8)	(9)
				Africa+ Oceania+	Europe+
lnOECDOFDIF	High	Low	Asia	L. America	N. America
lnCOFDIF	-0.532***	-0.014	-0.385**	-0.058	-0.355***
Host Country Characteristics					
lnRGDP	0.763***	0.643***	0.738***	0.940***	0.858***
lnRGDPPC	0.149	0.469***	0.031	0.150**	-0.202*
Technology	6.348***	0.419*	3.430***	0.591	3.962***
Resources	-0.067	-0.269	1.003**	-0.113	0.688*
Home Country Characteristics					
lnRGDP	-3.938	5.599	7.406	2.093	-5.260
lnRGDPPC	9.200*	-0.448	-0.525	2.693	10.310**
Technology	2.235*	0.392	-0.186	-1.909	2.918**
Resources	-4.842*	-3.567	-2.842	-4.036	-3.353
Bilateral Characteristics					
lnExch	-0.191***	-0.016	0.150**	-0.098***	-0.054
lnArea	0.071*	0.002	-0.169***	-0.299***	0.048
Colony	0.287	0.598***	-0.519*	1.299***	0.378*
Comcol	0.978	2.669***	1.418**	dropped	3.443***
Comlang	0.959***	0.530***	0.607**	0.416**	0.418**
Contig	-0.151	1.521***	-1.012	1.273***	0.303*
lnDist	-0.454***	-0.821***	-1.142***	-0.212**	-0.614***
Smctry	1.400***	-1.216	dropped	dropped	0.574*
Number of obs.	2528	2563	1285	1505	2301
R^2	0.854	0.826	0.818	0.843	0.879
Endogeneity test	26.985	5.683	11.177	8.002	24.384
p-value	0.000	0.017	0.001	0.005	0.000
1st stage F-Stat	20.170	132.800	26.590	75.470	35.280
Kleibergen-Paap	39.530	206.200	44.720	157.800	58.940
p-value	0.000	0.000	0.000	0.000	0.000
Hansen J-Stat	0.132	0.450	0.007	1.733	0.186
p-value	0.717	0.502	0.932	0.188	0.666

Notes: To save spaces, standard errors and t-values are not reported. Each regression includes a time trend as well as the home country dummy. * denotes significance at 10%, ** at 5% and *** at 1%. Definitions of variables are given to Equation (1) in the main text.

5. Robustness checks

Two robustness checks were undertaken to examine the sensitivity of results to various aspects including the involvement of SARs as destinations and the estimation period before the 2008 financial crisis.

Two special administrative regions (SARs), Hong Kong and Macao, are excluded from the previous estimations because they are acknowledged as tax havens and investments of OECD countries in these destinations may suffer from the 'round-tripping' problem. However, China's OFDI skews towards SARs because of the historical relations between them. The exclusion of SARs may lead to biased estimates of the displacement effect.

Column (1) in Table 4 presents the estimation result with inclusion of SARs as destinations, but the coefficient on China's OFDI is still found to be negative and significant at the 1% level.

The sample period 2003-2009 includes two years of the world financial crisis, 2008 and 2009. The financial crisis was initially triggered by the US subprime crisis and rapidly spread to the world and substantially changed the global economic landscape. For example, the OFDI of OECD countries contracted sharply by 18% and 47% in 2008 and 2009, respectively. In contrast, China's OFDI expanded by 111% and 1%, respectively.[9]

To examine the effect of the crisis on China's OFDI, the dataset for 2003-2007 was re-estimated this time excluding the observations for 2008-2009. The results do not alter the sign and statistical significance of the main variable of interest, and the magnitude of the estimated coefficient is also similar (column (3), Table 4).

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[9] The growth rates were calculated by the authors. Data for the OECD countries' OFDI were obtained from the UNCTAD *World Investment Report* (various issues). Data for China's OFDI were obtained from the MOFCOM (2009).

Table 4 Results of the robustness checks

Dependent:	Including SARs		Pre-Crisis	
	(1)	(2)	(3)	(4)
lnOECDOFDIF	Coefficient	S.E.[1]	Coefficient	S.E.[1]
lnCOFDIF	-0.111***	(0.039)	-0.422***	(0.102)
Host Country Characteristics				
lnRGDP	0.622***	(0.042)	0.675***	(0.063)
lnRGDPPC	0.195***	(0.035)	0.235***	(0.044)
Technology	1.871***	(0.236)	3.303***	(0.409)
Resources	0.111	(0.158)	0.604**	(0.270)
Home Country Characteristics				
lnRGDP	0.734	(3.048)	1.736	(4.606)
lnRGDPPC	4.150	(3.011)	1.362	(4.582)
Technology	1.698*	(0.890)	1.342	(1.081)
Resources	-3.087*	(1.728)	-3.918	(3.074)
Bilateral Characteristics				
lnExch	-0.065***	(0.014)	-0.026	(0.021)
lnArea	-0.015	(0.023)	0.117***	(0.031)
Colony	0.593***	(0.120)	0.799***	(0.149)
Comcol	2.590***	(0.512)	3.142***	(0.490)
Comlang	0.517***	(0.103)	0.357***	(0.130)
Contig	0.319**	(0.138)	0.725***	(0.169)
lnDist	-0.744***	(0.040)	-0.657***	(0.058)
Smctry	0.392	(0.279)	-0.109	(0.377)
Number of obs.	5,207		4,071	
R^2	0.86		0.82	
Endogeneity test	46.69		39.04	
p-value	0.00		0.00	
First stage F-Stat	251.83		57.49	
Kleibergen-Paap rk	302.80		91.56	
p-value	0.00		0.00	
Hansen J-Stat	0.08		0.04	
p-value	0.77		0.84	

Notes: [1]Robust standard errors are in parentheses. Each regression includes a time trend as well as the home country dummy. Significant at * 10%, ** 5% and *** 1%.

6. Conclusions

This study examines whether and how rapid growth of China's OFDI displaces OECD countries' OFDI in a third host country. A panel dataset is constructed covering OFDI flows from 33 OECD countries to 155 host countries during 2003–2009. A basic gravity model is also constructed to estimate the effects of China's OFDI on OECD countries' OFDI with various specifications, including different sets

of control variables. A TSLS method is used for the estimation of the empirical models.

It further investigates whether and how this displacement effect varies across host country characteristics, such as resource abundance, incomes and continental location.

The empirical results suggest that China's OFDI displaces the OFDI of OECD countries in general. Depending on IV validity, a 10% rise in China's OFDI reduces that of OECD countries by 3.4% in a third host country. However, this displacement effect responds differently to a host country's characteristics. In particular, there are significant displacement effects in less resource abundant, higher income host countries and those located in Asia, Europe and North America, but *not* in resource abundant, low-income countries and those located in Africa or Latin America. The latter findings of these insignificant displacement effects contrast with the often cited argument that China's investments in these countries are driven by a 'new colonialism', where China aims to crowd out Western investors.

An important implication of this study in the understanding of China's overseas investments is that China displaces the OECD countries' investments in general. However, China's overseas investments do not undermine the investments of OECD countries in resource abundant, low income, African or Latin American host countries. Therefore, a more transparent OFDI policy and more government level cooperation would be helpful in clarifying the anxiety surrounding Chinese OFDI and in removing the perception that Chinese OFDI is a threat to the existing interests of other countries or that it will cause disorder in the world economy. In reality, China's

OFDI is driven by common motivations and Chinese capital provides an opportunity to sustain global economic growth and to achieve mutual benefits.

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Appendix A: Host Countries and Home Countries List

Table A1: List of Host Countries

1	Afghanistan	55	Ghana	109	Papua New Guinea
2	Albania	56	Greece	110	Paraguay
3	Algeria	57	Grenada	111	Peru
4	Angola	58	Guinea	112	Philippines
5	Argentina	59	Guyana	113	Poland
6	Australia	60	Honduras	114	Qatar
7	Austria	61	Hungary	115	Romania
8	Azerbaijan	62	India	116	Russia
9	Bahamas	63	Indonesia	117	Rwanda
10	Bahrain	64	Iran	118	Samoa
11	Bangladesh	65	Iraq	119	Saudi Arabia
12	Barbados	66	Ireland	120	Senegal
13	Belarus	67	Israel	121	Seychelles
14	Belgium	68	Italy	122	Sierra Leone
15	Belize	69	Jamaica	123	Singapore
16	Benin	70	Japan	124	Slovakia
17	Bermuda	71	Jordan	125	South Africa
18	Bolivia	72	Kazakhstan	126	South Korea
19	Bosnia and Herzegovina	73	Kenya	127	Spain
20	Botswana	74	Kuwait	128	Sri Lanka
21	Brazil	75	Kyrgyzstan	129	St. Vincent & Grenadines
22	Brunei	76	Laos	130	Sudan
23	Bulgaria	77	Latvia	131	Suriname
24	Burundi	78	Lebanon	132	Sweden
25	Cambodia	79	Lesotho	133	Switzerland
26	Cameroon	80	Liberia	134	Syrian Arab Rep
27	Canada	81	Libyan	135	Taiwan Province
28	Cape Verde	82	Liechtenstein	136	Tajikistan
29	Chad	83	Luxembourg	137	Tanzania
30	Chile	84	Madagascar	138	Thailand
31	Colombia	85	Malawi	139	Timor-Leste
32	Congo	86	Malaysia	140	Togo
33	Congo DR	87	Mali	141	Tunisia
34	Cote d'Ivoire	88	Malta	142	Turkey
35	Croatia	89	Marshall	143	Turkmenistan
36	Cuba	90	Mauritania	144	Uganda
37	Cyprus	91	Mauritius	145	Ukraine
38	Czech Republic	92	Mexico	146	United Arab Emirates
39	Denmark	93	Mongolia	147	United Kingdom
40	Djibouti	94	Morocco	148	United States
41	Dominican Republic	95	Mozambique	149	Uruguay
42	Ecuador	96	Myanmar	150	Uzbekistan
43	Egypt	97	Namibia	151	Venezuela
44	Equator Guinea	98	Nepal	152	Vietnam
45	Eritrea	99	Netherlands	153	Yemen
46	Ethiopia	100	New Zealand	154	Zambia
47	Federal St. Micronesia	101	Niger	155	Zimbabwe
48	Fiji	102	Nigeria		
49	Finland	103	North Korea		
50	France	104	Norway		
51	Gabon	105	Oman		
52	Gambia	106	Pakistan		
53	Georgia	107	Palau		
54	Germany	108	Panama		

Table A2: List of Home Countries

1	Australia
2	Austria
3	Belgium
4	Canada
5	Chile
6	Czech Republic
7	Denmark
8	Estonia
9	Finland
10	France
11	Germany
12	Greece
13	Hungary
14	Iceland
15	Ireland
16	Israel
17	Italy
18	Japan
19	Luxembourg
20	Netherlands
21	New Zealand
22	Norway
23	Poland
24	Portugal
25	Slovakia
26	Slovenia
27	South Korea
28	Spain
29	Sweden
30	Switzerland
31	Turkey
32	United Kingdom
33	United States

Appendix B: First Stage Estimations of TSLS

Table B1: First Stage Estimation of TSLS for the Whole Sample

Dependent:	Model 1		Model 2		Model 3	
	(1)	(2)	(3)	(4)	(5)	(6)
lnCOFDIF	Coefficient	S.E.[1]	Coefficient	S.E.[1]	Coefficient	S.E.[1]
Host Country Characteristics						
lnRGDP	0.239***	(0.028)	0.252***	(0.031)	0.427***	(0.032)
lnRGDPPC	0.175***	(0.035)	0.155***	(0.038)	0.005	(0.039)
Technology			0.805***	(0.276)	1.173***	(0.277)
Resources					1.995***	(0.127)
Home Country Characteristics						
lnRGDP	0.984	(2.580)	3.380	(2.935)	1.128	(3.039)
lnRGDPPC	-0.463	(2.652)	-3.063	(3.023)	-1.778	(3.081)
Technology			-0.549	(0.798)	-0.683	(0.801)
Resources					-0.429	(1.900)
Bilateral Characteristics						
lnExch	-0.045	(0.339)	-0.030	(0.407)	-0.159	(0.483)
lnArea	0.296***	(0.024)	0.291***	(0.025)	0.146***	(0.027)
Colony	0.243**	(0.118)	0.392***	(0.130)	0.370***	(0.127)
Comcol	1.028**	(0.471)	0.871*	(0.511)	0.574	(0.471)
Comlang	0.441***	(0.110)	0.450***	(0.120)	0.482***	(0.119)
Contig	0.341**	(0.149)	0.337**	(0.151)	0.323**	(0.146)
lnDist	0.490***	(0.035)	0.509***	(0.035)	0.455***	(0.035)
Smctry	-0.088	(0.344)	-0.090	(0.343)	-0.178	(0.341)
Excluded Instrument Variables						
lnChinaDist	-0.900***	(0.053)	-0.872***	(0.059)	-0.788***	(0.059)
lnChinaExch	0.084	(0.339)	0.053	(0.408)	0.172	(0.483)
F test of excluded instruments	143.470		110.350		89.390	
p-value	0.000		0.000		0.000	

Notes: [1] Robust standard errors are in parentheses. Each regression includes a time trend as well as the home country dummy. Significant at * 10%, ** 5% and *** 1%.