

# Investing Overseas Without Moving Factories Abroad: The Case of Chinese Outward Direct Investment

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Chinese outward direct investment (ODI) is unique in the sense that it starts in the early stage of economic development and does not move factories overseas. Empirical analyses using firm-level data confirm that the main purpose of Chinese ODI is to strengthen domestic production and productivity by acquiring strategic assets overseas. This Chinese style of ODI, which is different from Japanese efficiency-seeking ODI or American market-seeking ODI, is mainly underscored by significant cost advantage and abundant foreign exchange. We suggest that there might be a life cycle of ODI, which evolves from the Chinese style to the Japanese style and then to the American style as the economy develops. Following this proposition, we expect a major wave of ODI by Chinese small-sized and medium-sized manufacturing enterprises in the coming decade.

*Keywords:* Chinese outward direct investment, Chinese style ODI, ODI life-cycle

*JEL codes:* E220, F210, F230

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## I. Introduction

The People's Republic of China (PRC) has been a major exporter of capital for the past decade. But so far, the main form this has taken has been accumulation of foreign exchange reserves. At the end of 2010, the PRC's outstanding foreign assets amounted to \$3.415 trillion, of which \$2.847 trillion or 83.4% were foreign reserves (Table 1). Direct and portfolio investment by the private sector, valued at \$311 billion and \$257 billion, respectively, were quite small, with each accounting for less than 10% of the total.

Such a unique pattern of the PRC's foreign investment position had been a result of government policy choices. At the beginning of economic reform in the

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Table 1. The PRC's Net Foreign Investment Position, End-2010

		\$ Billion	% of GDP
<b>Direct Investment</b>	Asset	311	5.3
	Liability	-1476	-25.1
	Net	-1166	-19.8
<b>Portfolio Investment</b>	Asset	257	4.4
	Liability	-222	-3.8
	Net	36	0.6
<b>Official Foreign Reserves</b>		2847	48.4
<b>Total Net Foreign Assets</b>		1717	29.2

Source: State Administration of Foreign Exchange.

late 1970s, the PRC had a tightly controlled capital account and an artificially set exchange rate for its currency, the renminbi. Over the years, authorities gradually loosened controls over cross-border capital flows following broad strategies that preferred inward over outward investment, long-term over short-term investment, and direct over portfolio investment. Inward foreign direct investment (FDI), which cumulated to \$1.476 trillion at the end of 2010, had in fact been one of the key contributors to the PRC's economic success during the reform period.

The government's policy choice to intervene in the foreign exchange market led to massive accumulation of foreign exchange reserves, which could be utilized for overseas investment. At the height of the Asian financial crisis, Chinese policymakers decided to fix the exchange rate at  $\text{CNY}8.28 = \$1.00$  to maintain domestic and regional financial stability. Soon after, however, market pressure for depreciation of the domestic currency turned to pressure for appreciation as the economy recovered. However, the government largely resisted this by heavily intervening in the foreign exchange market, although modest exchange rate adjustment began to occur from mid-2005. Rapid accumulation of foreign exchange reserves, from about \$100 billion at the end of 1996 to \$3.2 trillion by end-2011, had been a direct consequence of foreign exchange market intervention.

Although outward direct investment (ODI) accounts for a relatively small part of the PRC's total foreign assets, it has been growing very rapidly, and the country already counts among the largest investors in the world. This is at odds with general international experience. The investment development path theory of Dunning (1981) suggests that with an increase in per capita income, a country initially attracts growing amount of FDI; subsequently becomes an ODI player; and eventually, its ODI exceeds FDI or the two fluctuate around a rough balance. Such a close connection between a country's ODI and its economic development reflects domestic firms' changing competitive advantage against foreign competitors. It also reflects the changing attractiveness of the country in terms of production costs, market opportunities, and natural or created resource endowments (Dunning et al. 2008).

Although its GDP per capita is still close to \$6,000, the PRC is already the world's fifth largest direct investor following the US, Germany, France, and Hong Kong, China in flow terms. Some of the cases—for example, Chinacol's proposal to take a stake in Rio Tinto, CNOOC's plan to invest in Unocal, and Huawei's investment in 3Leaf System—were worldwide stories. But this is probably only the beginning of the PRC's rising ODI story. Ongoing reforms aimed at increasing exchange rate flexibility and liberalizing capital account controls imply a lot more Chinese ODI in the future. For instance, He et al. (2012) predict that the PRC's cumulative ODI would probably reach \$5.149 trillion in 2020, a net increase of \$4.832 trillion from 2010 (\$317.21 billion). Even the more modest predictions by the Asia Society in the US of \$1 trillion–\$2 trillion in 2020 would imply an average of \$100 billion–\$200 billion a year during the current decade, compared with around \$70 billion in 2011.

But currently, Chinese ODI appears to be quite different from ODI of some developed economies. Typically, firms make ODI either to take advantage of low production costs in the host countries (Japanese-style ODI) or to increase market share by bypassing tariff and nontariff barriers to imports (American-style ODI).<sup>1</sup> We argue that the unique feature of Chinese ODI is that most Chinese firms made overseas investment but did not move their factories abroad. Huang and Wang (2011) identify three broad motivations for Chinese-style ODI: (i) to secure resource supply, (ii) to acquire advanced technology, and (iii) to facilitate export expansion.

In this paper, we apply statistical approaches to identify the main motivations of Chinese ODI by using two sets of enterprise data. The first dataset, collected by the authors, consists of approved ODI projects from the National Development and Reform Commission (NDRC). This includes 293 investment projects with total investment of \$99.43 billion made by 216 firms between 2003 and the first half of 2011. Most of the projects are large in terms of investment and involve known Chinese firms. The second dataset is provided by the Foreign Trade and Economic Cooperation Bureau (FTECB) of Zhejiang Province and covers all the registered ODI from that province from 2006 to 2008. They are representative of investment by the PRC's private sector and small-sized and medium-sized enterprises (SMEs). There are 1,270 projects in the dataset, totaling investment of \$1.75 billion or \$1.4 million per project on average. This is quite small compared with average investment of \$339 million for the NDRC dataset.

Based on these two complementary sets of enterprise data, we employ the probit model to statistically verify if the announced investment purpose by large investors and the registered investment type by SMEs actually reflect their investment motives. We find that for the large investors in the NDRC sample, the main

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<sup>1</sup>The pattern of Japanese ODI has evolved since the 1990s, becoming more similar to that of American ODI, as discussed in Section V. However, the term Japanese-style ODI is still used in this paper to describe the type of investment that seeks to take advantage of low production costs in host countries.

objectives are to acquire resources (resource-seeking) and purchase strategic assets (technology-seeking). For the SME investors of the Zhejiang sample, the main purposes of ODI are to facilitate exports to host economies and to provide after-sale services (trade-facilitating).

Finally, we propose a life cycle thesis of ODI, which may be viewed as an extension of Dunning's investment development path theory. As an economy develops, it becomes a direct investor, and its ODI may transition from the Chinese style to the Japanese style and, finally, to the American style. Apparently, the most important determinants of evolution of this life cycle are cost and technology. The distinctions among the different styles of ODI are only relative. Often, we can observe more than one style in an economy. However, if the life cycle thesis actually holds, then our prediction is that we may see increasing Japanese-style ODI in the PRC in the coming years, i.e., large numbers of small-sized and medium-sized labor-intensive manufacturers moving to other low-cost countries.

This paper is organized as follows. The next section reviews existing economic studies on ODI and highlights the relevance of this study. Sections III and IV assess motivations of Chinese ODI by large investors and SMEs. Section V compares Chinese-style ODI with American-style and Japanese-style ODI and discusses key factors contributing to the Chinese characteristics. The final section provides some concluding remarks.

## II. Literature Review

There is a rich literature on FDI, especially its motivations, forms, and impacts. One useful angle is to explore how national firms grow into multinational giants by undertaking ODI.

The modern theory of multinational enterprises (MNEs) started by analyzing the proprietary resources and capabilities possessed by domestic firms to generate a monopolistic or competitive advantage over indigenous firms in host countries and counteract inherent disadvantages of doing business abroad (Buckley and Casson 1976, Caves 1971, Hymer 1976, Kindleberger 1969 and 1970). This was consistent with the experience of early MNEs from Europe, Japan, and the US in the 1970s and 1980s. Before they invested abroad, their advantages and assets were well built at home. They invested overseas mostly in wholly-owned or majority-owned subsidiaries, transferring technology and know-how from headquarters to far-flung operations around the world (Guillen and Garcia-Canal 2009).

Early literature on ODI from developing economies called "third-world multinationals" (Lall 1983) also described how investing firms established exploitable proprietary advantage. These advantages come from low input costs and management and marketing skills adapted to conditions in the third world. Some are associated with conglomerate ownership. Developing country MNEs expand

predominantly into similar and less developed countries (Lall 1983 and 1984, Lecraw 1977 and 1983, Vernon 1966 and 1979, Wells 1983).

Investing firms optimized their activities along the value chain across host locations and exploited their competitive advantage (Dunning 1980, 1981, and 1988). The country-specific determinants for ODI include market size, production factors (availability, quality, and price), infrastructure, transport and communication cost, taxes and subsidies, regulatory framework, etc. ODI firms expand horizontally into foreign countries to secure or defend a market position (market-seeking ODI), or operate vertically into host economies to exploit local factor endowments such as oil, gas, timber, and other natural resources (resource-seeking ODI), or cheap labor (efficiency-seeking ODI).

Recent studies have recognized that firms undertake ODI not only to exploit but also to develop their competitive advantage. Such asset-seeking or technology-seeking strategy has sometimes been identified to explain how latecomer and newcomer MNEs overcome their competitive disadvantage by investing abroad (Child and Rodrigues 2005, Li 2003, Makino et al. 2002, Mathews 2002 and 2006, UNCTAD 2006, Wesson 1999). Here, technology is broadly defined to encompass production technology, management skills, and brand names.

Makino et al. (2002) empirically found that firms from newly industrialized economies (NIEs) pursue technology-seeking and market-seeking ODI in developed countries but pursue resource-seeking ODI in less developed countries (LDCs). In fact, several studies revealed how technology-seeking ODI had been an important motivation for MNEs from Brazil, Mexico, Poland, Romania, and Taipei, China (Carvalho et al. 2010, Hitt et al. 2000, Makino et al. 2002). One important reason for this phenomenon is limited geographical spread of knowledge since research and development (R&D) activities are often highly concentrated in advanced economies (Audretsch and Feldman 1996, Jaffe et al. 1993).

This technology-seeking strategy is not only observed in ODI by MNEs from LDCs but is also common in intra-triad merger and acquisitions (M&As), most of which are in knowledge and information-intensive sectors (Dunning 1998 and 2006). A number of studies actually found that much of the ODI targeting the US had been motivated by a technology-seeking objective (Almeida 1996, Chang 1995, Kogut and Chang 1991, Shan and Song 1997).

The competitive advantage at least should follow if not lead firms' internationalization even for technology-seeking ODI (Dunning 2000). To assimilate and manage the acquired assets, investing firms need to possess certain levels of productivity, absorptive capability, and technology transfer skills so that the entire company could gain from overseas investment (Smeets and Bosker 2011).

The study of Chinese ODI is a relatively new but rapidly growing field. Most of the earlier studies were descriptive in nature—reviewing historical trends, chronicling the changing composition of industry and/or destination of investment and evolution of government policies, and some in-depth case studies (e.g., Deng

2003 and 2004, Wu and Chen 2001). More recent studies focused on the empirical examination of determinants of Chinese ODI mostly at the country level (Buckley et al. 2007).

A small number of studies have looked at firm-level experiences by applying some survey data, with a special focus on the key drivers of Chinese ODI. Luo et al. (2011) elucidated that international ventures by private Chinese firms had been prompted by an inducement to exploit firm-specific advantages as well as to circumvent market imperfection residuals embedded in the economic transformation of the home country. They examined the impact of firm resources, industry dynamics, and government policies on the ODI motivations of Chinese firms. Their findings confirm that government supports are conducive to both technology-seeking ODI and market-seeking ODI. Firms' technology-based competitive advantages and a high level of industry R&D intensity tend to motivate technology-seeking ODI, whereas firms' export experience and higher level of domestic industry competition tend to induce market-seeking ODI.

These analyses based on survey data reflect management's considerations of ODI, as many of the interviewed firms were not necessarily investing overseas. Studies focusing on Chinese overseas M&As support the resource-seeking and technology-seeking motivations of Chinese MNEs (Antkiewicz and Whalley 2007, Deng 2009, Rui and Yip 2008).

In this study, we first construct two unique datasets, one on large ODI projects approved by the NDRC and the other on ODI projects by SMEs in Zhejiang Province. We then apply statistical approaches to verify the investment motivations claimed by investors. To our best knowledge, this study is the first to assess the relative weights of four different motivations of Chinese ODI (market seeking, technology seeking, natural resource seeking, and efficiency seeking). It is probably also the first study to compare and analyze ODI motivations for Chinese enterprises of different sizes and ownership.

### III. Why Chinese Companies Invest Overseas

Firms undertake ODI to pursue one or a combination of the following four objectives: to seek markets, natural resources, technology and other strategic assets, and efficiency (Buckley et al. 2007, Cross and Voss 2008, Dunning 1992 and 1993). Respectively, these are the market-seeking, resource-seeking, technology-seeking, and efficiency-seeking motives.

In this paper, we take two steps to determine the main motivations of Chinese ODI. First, we go through all available project documents to identify claimed investment objectives following conventional definitions in the literature (for example, Buckley et al. 2007).<sup>2</sup> Second, we apply the probit model to verify the credibility of claimed investment objectives. For instance, market size of the host country should

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<sup>2</sup>This step was conducted and collated by the authors and outside researchers separately.

be a key determinant of market-seeking ODI, while wage rates should be a key determinant of efficiency-seeking investment.

### A. The Dataset

The reason why we spent a considerable amount of time collecting project data is because aggregate data do not offer much useful or accurate information about Chinese ODI. According to official data released by the Ministry of Commerce (MOFCOM), about 78% of the PRC's ODI flow went to the British Virgin Islands, the Cayman Islands, and Hong Kong, China from 2003 to 2009. Commercial services accounted for 32.26% of total ODI during the same period. These headline data could be misleading since MOFCOM reports only the first destination, which sometimes is just a stepping stone to the final destination.

To avoid this problem, we construct a dataset with detailed investment information at the project level. We first collect basic information of ODI projects approved by the NDRC. We retain project data if: (i) investment amount is reported, (ii) investment content is identified, and (iii) Chinese investors control more than 10% of the target projects. We discard the project data if: (i) both the buyer and the seller are Chinese firms, (ii) the project is round-tripping investment, and (iii) the purpose of investment is to set up a trading center; industrial, scientific, or technology parks; or an economic zone.

The final dataset contains 293 investment projects with a total of \$99.43 billion invested by 216 Chinese firms between 2003 and the first half of 2011. This dataset covers the majority of Chinese ODI during that period.

### B. Explanatory Variables and Hypotheses

Market-seeking ODI occurs as the investing firm expands horizontally into markets to secure or defend a market position established through arm's length or to develop a new market previously unserved (Buckley et al. 2007). Market-seeking ODI could be defensive in following trade if a foreign country imposes or threatens to impose barriers to imports. Defensive market-seeking ODI could also occur when a firm aims to better serve established customers and strengthen their loyalty by setting up a (foreign) affiliate close to (local) customers. Market-seeking ODI could also be offensive to explore new markets.

Market-seeking ODI should respond to variables that measure market opportunities such as host market size, income, and growth momentum. In this study, we include three variables: (i) gross domestic product (GDP) of the host country, *GDP*; (ii) GDP per capita, *GDPP*; and (iii) GDP growth rate, *GDPG*. These three variables are all from the World Bank's database, World Development Indicators (WDI). We take the logarithm for *GDP* and *GDPP*. An important aspect of market-seeking ODI is to follow trade, and we thus include the variable, *Export*, to measure the PRC's

exports to host countries (also in logarithms). This trade measure is from the United Nations Conference on Trade and Development (UNCTAD) database.

Given other conditions, market-seeking ODI should positively respond to the host country's *GDP* and *GDPG*. As for *GDPP*, the sign is unclear. A higher per capita GDP indeed suggests a higher purchasing power. But there is also evidence that developing countries usually invest heavily in other developing countries (UNCTAD 2006), one of the reasons being that products made by developing firms are more likely to suit the tastes and needs of consumers in countries with similar levels of economic development. The sign for *Export* is also uncertain. In theory, exporting and ODI are two alternative means of penetrating foreign markets—exporting goods to satisfy foreign demand, or exporting capital and producing locally. However, if ODI is meant to defend an existing export market, there could be a complementary relationship between these two. Also, there is evidence that the existing trade relations between the investing economy and the host country could facilitate ODI because of the experience gained in trade (Blonigen 2001 and 2005).

Resource-seeking ODI seeks to exploit local factor endowments such as oil, gas, mineral, timber, and other natural resources. The abundance of natural resources in host countries is the key determinant for this type of ODI. We apply two measures: one is *orefuel*, the share of ores and fuels in the host country's total exports; the other is *raw*, the host country's share in the PRC's total imports of raw materials.<sup>3</sup> These two variables are calculated based on the merchandise trade matrix from the UNCTAD database. We hypothesize that resource-seeking ODI should respond positively to *orefuel* and *raw*.

Technology-seeking ODI pursues technology as well as other strategic assets in host countries where technology already exists or is developing (e.g., through technology clusters). Investing firms could tap the knowledge pool directly by cooperating with local companies, or indirectly, through spillovers and demonstration effects. Broadly defined, technology-seeking ODI also aims at acquiring brands and improving access to distribution channels and tacit assets, with a view to help the acquirer fulfill certain long-term strategic objectives.

We use the revealed comparative advantage (RCA) index in high-tech exports, *RCA\_hitech*, as proxy for the abundance of technology in the host economy. The RCA index is the ratio of the share of an individual sector's exports in total exports for a particular country to that share for the world (Balassa 1965). An index less than one implies relative disadvantage, whereas a value greater than one indicates relative advantage.

Following the definition of Balassa (1965), this can be written as:

$$RCA_{c,i,t} = \frac{EX_{c,i,t}}{\sum_c EX_{c,i,t}} \bigg/ \frac{\sum_i EX_{c,i,t}}{\sum_i \sum_c EX_{c,i,t}} \quad (1)$$

<sup>3</sup>Raw materials are calculated as the PRC's total imports of goods minus total imports of manufactured goods.



where  $EX_{c,i,t}$  denotes the exports of industry  $i$  of country  $c$  in year  $t$ .  $RCA_{c,i,t}$  denotes the revealed comparative advantage of industry  $i$  of country  $c$  in year  $t$ .

In this study, we calculate  $RCA\_hitech$  using the trade matrix in the UNCTAD database. In addition, rich countries with high GDP per capita,  $GDPP$ , to some extent are also possessed with more technologies. Hence, we expect a significantly positive response of technology-seeking ODI to both  $RCA\_hitech$  and  $GDPP$ .

Efficiency-seeking ODI, by dispersing design and production facilities globally, is undertaken to generate economies of scale and scope and to secure access to cheaper input factors, especially labor. ODI firms take advantage of the difference in factor endowments to improve productive efficiency. Efficiency-seeking ODI is normally sensitive to cost factors. Thus, we introduce three variables: (i) GDP deflator,  $inflation$ , which is an inflation indicator; (ii) exchange rate change relative to the previous year,  $exchanf$ , which measures exchange rate fluctuations; and (iii)  $GDPP$ , representing labor cost. The data source for  $inflation$  and  $GDPP$  is the WDI, while  $exchanf$  is calculated based on the UNCTAD database.

Table 2 depicts the correlation between these determinant variables. The correlation matrix indicates that there is generally no multicollinearity problem. Moreover, to partially address the concern over possible endogeneity, all the macro variables in this study are presented with a one-period lag.

### C. Empirical Results

Table 3 lists the motivations behind Chinese ODI and gives their distribution. About 41% of investment projects (51% in terms of investment value) went overseas to take advantage of the availability of natural resources. Following were market-seeking investment, which ranked second, and technology-seeking investment, which ranked third.

Table 2. Pairwise Correlations between Variables

	lnGDP	lnGDPP	GDPG	lnExport	RCA_			inflation	exchanf
					hitech	orefuel	raw		
<b>lnGDP</b>	1								
<b>lnGDPP</b>	0.751	1							
<b>GDPG</b>	-0.465	-0.514	1						
<b>lnExport</b>	0.802	0.704	-0.282	1					
<b>RCA_hitech</b>	0.495	0.671	-0.285	0.618	1				
<b>orefuel</b>	-0.187	-0.218	0.146	-0.320	-0.191	1			
<b>raw</b>	0.547	0.445	-0.165	0.418	0.378	0.330	1		
<b>inflation</b>	-0.425	-0.560	0.407	-0.452	-0.437	0.429	-0.102	1	
<b>exchanf</b>	0.247	0.228	0.218	0.137	0.122	-0.052	0.156	-0.082	1

lnGDP = log of GDP, lnGDPP = log of per capita GDP, GDPG = GDP growth rate, lnExport = log of exports to host countries, RCA\_hitech = revealed comparative advantage index in hi-tech exports, orefuel = share of ores and fuels in the host country's total exports, raw = host country's share in the PRC's total raw materials imports, inflation = GDP deflator, exchanf = exchange rate change relative to the previous year.

Table 3. Motivations behind Chinese ODI

Primary Motivation	By Number		By Value	
	Number	Share (%)	Value	Share (%)
<b>Overall</b>				
Market seeking	87	29.7	28.2	28.4
Resource seeking	121	41.3	51.0	51.3
Technology seeking	78	26.6	20.0	20.1
Efficiency seeking	7	2.4	0.2	0.2
<b>Manufacturing</b>				
Market seeking	49	27.2	6.9	22.2
Resource seeking	61	33.9	9.9	31.6
Technology seeking	63	35.0	14.2	45.5
Efficiency seeking	7	3.9	0.2	0.7

Primary and Secondary Motivation	By Number		By Value	
	Number	Share (%)	Value	Share (%)
<b>Overall</b>				
Market seeking	101	29.5	32.5	27.5
Resource seeking	126	36.8	51.1	43.3
Technology seeking	94	27.5	32.2	27.3
Efficiency seeking	21	6.1	2.2	1.9
<b>Manufacturing</b>				
Market seeking	58	27.0	7.6	21.1
Resource seeking	66	30.7	10.0	27.9
Technology seeking	71	33.0	16.1	44.8
Efficiency seeking	20	9.3	2.2	6.2

The subset of manufacturing projects tells a slightly different story. Here, the key driver of ODI is actually the technology-seeking motive, which accounts for 35% of the projects or 46% of total investment value. Clearly, many Chinese manufacturers go overseas to seek strategic assets—i.e., advanced technology, established brands, and marketing channels—in order to increase profit margins and climb up the industrial value chain. Natural resource seeking, however, is also an important objective for Chinese manufacturers investing abroad. Interestingly, efficiency seeking is not a main driver of Chinese ODI. Only seven out of the total 293 projects had gone overseas to reduce production costs.<sup>4</sup>

In reality, firms undertaking ODI may be driven by more than one motive. Even after considering both primary and secondary motivations, however, we find that the relative importance of each motivation does not change.

We use the probit model to verify the above claimed objectives (Table 4, first four columns). Indeed, market-seeking ODI is significantly affected by market

<sup>4</sup>This may be partly explained by the potential for many coastal manufacturers to migrate to the vast inland provinces, where production costs are much lower, instead of going overseas. Also, our sample covers large investment projects. It is possible that cost pressures are greater for SMEs in low value-added manufacturing.

Table 4. Results of the Identification of Motives behind Chinese ODI

	Primary Motivation			Robustness Check				
	Market	Asset	Resource	Efficiency	Market	Asset	Resource	Efficiency
<b>lnGDP</b>	0.418*** (3.98)	0.08 (0.53)	-0.235 (1.47)	-0.186 (0.53)	0.325*** (3.33)	0.057 (0.4)	-0.12 (0.85)	-0.02 (0.11)
<b>lnGDPP</b>	-0.30*** (2.64)	1.02*** (2.60)	0.12 (0.81)	-0.35 (0.78)	-0.26** (2.45)	0.60*** (3.38)	0.01 (0.09)	-0.06 (0.46)
<b>GDPG</b>	0.119*** (3.22)	-0.055 (1.16)	-0.141** (2.51)	0.262 (1.44)	0.1*** (2.90)	-0.039 (0.94)	-0.071 (1.41)	0.096* (1.79)
<b>lnExport</b>	-0.27*** (2.66)	0.042 (0.27)	-0.195 (1.22)	0.542 (1.6)	-0.174* (1.81)	0.339** (2.21)	-0.179 (1.2)	0.07 (0.54)
<b>RCA_hitech</b>	0.184 (0.6)	0.842* (1.75)	-0.357 (0.88)	-2.364 (1)	0.106 (0.37)	0.274 (0.66)	0.045 (0.12)	-0.551 (1.36)
<b>orefuel</b>	-0.666 (1.38)	-2.289** (2.22)	1.304** (2.32)	0.132 (0.11)	-0.528 (1.15)	-1.031 (1.36)	1.143** (2.12)	0.065 (0.12)
<b>raw</b>	-7.548 (1.58)	-8.243 (1.43)	22.21*** (3.87)	-12.20 (0.24)	-9.13** (2.11)	-15.35** (2.88)	19.48*** (3.68)	-6.43 (1.04)
<b>inflation</b>	-0.004 (0.18)	-0.103 (1.51)	0.085*** (2.84)	-0.118* (1.87)	-0.016 (0.78)	0.035 (1.07)	0.068** (2.46)	-0.039 (1.56)
<b>exchanf</b>	2.164 (1.36)	-0.064 (0.04)	-1.027 (0.56)	1.139 (0.15)	1.165 (0.8)	0.631 (0.35)	-0.787 (0.45)	-1.694 (1.05)
<b>Observations</b>	289	289	289	289	289	289	289	289
<b>Pseudo R-squared</b>	0.3349	0.5198	0.6334	0.5427	0.279	0.5553	0.5094	0.1587

lnGDP = log of GDP, lnGDPP = log of per capita GDP, GDPG = GDP growth rate, lnExport = log of exports to host countries, RCA\_hitech = revealed comparative advantage index in hi-tech exports, orefuel = share of ores and fuels in the host country's total exports, raw = host country's share in the PRC's total raw materials imports, inflation = GDP deflator, exchanf = exchange rate change relative to previous year. \*\*\* = significant at the 1% level, \*\* = significant at the 5% level, \* = significant at the 10% level. All regressions include yearly and industry dummies. The numbers in parentheses are absolute value of z-statistics.

variables—*GDP*, *GDPP*, *GDPG*, and *Export*. As expected, *GDP* and *GDPG* show a positive link, while *GDPP* and *Export* show a negative link with the destinations' market attraction. Also as predicted, technology-seeking ODI has a significantly positive response to *GDPP* and *RCA\_hitech*, while resource-seeking ODI is significantly and positively determined by *orefuel* and *raw*.

However, the result for efficiency-seeking ODI is not satisfactory. Although *inflation* has a significantly negative impact as predicted, the coefficients for *exchanf* and *GDPP* are not significant. This is probably due to the limited size of observations for efficiency-seeking ODI, only seven, which makes estimation difficult to conduct.

A robustness check largely supports the results (Table 4, last four columns). In addition to empirically testing the primary motivation, it takes the secondary motivation of Chinese ODI into consideration.

#### IV. Evidence from SMEs in Zhejiang

The above analysis is based on projects, mainly undertaken by large investors. Other projects, however, may be undertaken by SMEs and may exhibit different characteristics. Fortunately, we also have a dataset covering ODI by SMEs in Zhejiang Province between 2006 and 2008. This data is owned by the FTECB of Zhejiang Province.

From 2003 to 2009, 82.57% of Chinese nonfinancial ODI flow came from enterprises controlled by the central government, but 92.24% of Chinese ODI firms were local enterprises. Zhejiang Province, Jiangsu Province, Shandong Province, Guangdong Province, Shanghai, and Heilongjiang Province accounted for 66.5% of these local firms on average between 2005 and 2009. The largest group could be found in Zhejiang Province, which accounted for 22.44% of the total during the period. ODI from Zhejiang Province is also widely representative of the behavior of private investing firms in the PRC. Approximately 70% of privately-owned Chinese ODI firms come from Zhejiang Province and Fujian Province.

During 2006–2008, Zhejiang recorded a total of 1,270 ODI projects, or \$1.75 billion in total investment. The average investment for each project is \$1.4 million compared with \$339 million for the full NDRC dataset and \$174 million for the manufacturing subset.

Table 5 reports the distribution of ODI according to organization type based on the Zhejiang dataset. The majority of investors (77.32%) seek to facilitate Chinese exports to foreign markets by setting up trading or trading-related affiliates. We call this type of investment “*Trade*.” The other important type, “*Production*,” involves activities in the form of manufacturing or processing. The other types of organization such as resource exploration and R&D do not have large shares. Thus, unlike resource-seeking or technology-seeking ODI of large Chinese investors, ODI of SMEs seems to be driven by a market-seeking and efficiency-seeking objective.

Table 5. ODI from Zhejiang Province, by Type of Organization

	No. of Projects	Share of Total (%)	Investment Amount (\$ ten thousands)	Share of Total (%)
Trade	982	77.32%	55710.34	31.87%
Production (Manufacturing & Processing)	159	12.52%	69630.02	39.84%
Construction & Real Estate	36	2.83%	11542.07	6.60%
Resource Exploration	32	2.52%	15875.53	9.08%
R&D	25	1.97%	6252.68	3.58%
Industrial Parks	7	0.55%	4453.38	2.55%
Others	29	2.28%	11316.43	6.47%

Source: FTECB, Zhejiang Province.

The “*Trade*” type of ODI aims at securing or defending the market position and to some extent implies market seeking by firms. However, trade-facilitating ODI differs from the normal market-seeking type of ODI in the sense that production activities are still retained in the PRC, and foreign markets are still served through exports. The role of investment here is to facilitate exports.

In contrast, the “*Production*” type of ODI embodies both a market-seeking (but in this case, moving production facilities abroad) and efficiency-seeking intent (by investing and producing in low-cost economies). The sum of market-seeking (“*Trade*” and part of “*Production*”) and efficiency-seeking (part of “*Production*”) motives accounts for 90% of SMEs’ ODI in number terms and 72% in dollar terms. Technology seeking and resource seeking absorb only small shares.

We again apply the probit model to statistically verify the motivations of SME ODI (Table 6). As expected, “*Trade*” type of ODI responds positively to the PRC’s exports to host countries (*Export*). The host countries’ GDP per capita, *GDPP*, are also significant in attracting this type of Chinese ODI. For the “*Production*” type of ODI, market size (*GDP*) has a positive impact while production cost (*GDPP*) has a negative influence.

Unlike the technology-seeking counterpart of large investment projects, host countries’ technological advantage, *RCA\_hitech*, does not have a significant impact in terms of attracting “*R&D*” among SMEs. Instead, this type of ODI responds mainly to host countries’ GDP per capita, *GDPP*, which to some extent also reflects the level of economic development of the host country.

As expected, resource-seeking ODI by Chinese SMEs is positively correlated with host countries’ possession of ores and fuels, *orefuel*. However, SMEs are generally only attracted by resources in low-income countries, while large investors we examined in the previous section do not display such discrimination.

To rule out possible biases due to the influence of offshore financial centers, we exclude the Cayman Islands, the British Virgin Islands, and Hong Kong, China from the sample, and redo the regression. As seen in the last six columns of Table 6, the main empirical results are unchanged and remain robust.

Table 6. Results of the Identification of Motives behind Chinese ODI from Zhejiang Province

	Full Sample				Robustness: Excluding OFC			
	Trade	Production	R&D	Resource	Trade	Production	R&D	Resource
<b>lnGDP</b>	-0.068 (1.27)	0.12** (2.03)	-0.009 (0.05)	-0.196 (1.59)	-0.091 (1.25)	0.043 (0.56)	0.153 (0.51)	0.019 (0.12)
<b>lnGDPP</b>	0.391*** (7.77)	-0.376*** (6.86)	0.908* (1.73)	-0.317*** (3.65)	0.397*** (7.61)	-0.359*** (6.48)	1.333* (1.92)	-0.406*** (3.79)
<b>GDPG</b>	0.024 (0.93)	0.012 (0.43)	-0.014 (0.14)	-0.011 (0.22)	0.025 (0.93)	0.014 (0.53)	0.065 (0.55)	-0.024 (0.43)
<b>lnExport</b>	0.103** (2.01)	-0.069 (1.21)	-0.048 (0.31)	-0.065 (0.67)	0.127* (1.68)	0.024 (0.29)	-0.141 (0.44)	-0.291** (2.03)
<b>RCA_hitech</b>	-0.076 (0.50)	-0.091 (0.55)	0.199 (0.42)	0.388 (1.61)	-0.07 (0.46)	-0.062 (0.38)	0.144 (0.28)	0.227 (0.83)
<b>orefuel</b>	-0.008 (0.03)	-0.485* (1.71)	-0.275 (0.22)	1.6*** (3.45)	-0.014 (0.05)	-0.493* (1.72)	0.741 (0.50)	1.544*** (3.28)
<b>raw</b>	0.786 (0.28)	-1.565 (0.50)	-0.936 (0.15)	2.371 (0.34)	0.673 (0.24)	-2.596 (0.82)	-0.915 (0.14)	5.307 (0.71)
<b>inflation</b>	0.035** (2.40)	-0.012 (0.97)	-0.103 (1.52)	-0.056** (2.24)	0.033** (2.35)	-0.013 (0.98)	-0.194 (1.95)	-0.05* (1.95)
<b>exchanf</b>	0.931 (1.13)	0.559 (0.62)	-2.266 (0.67)	-1.185 (1.18)	0.913 (1.10)	0.407 (0.46)	-0.638* (0.18)	-0.93 (0.93)
<b>Observations</b>	1189	1189	1189	1189	990	990	990	990
<b>Pseudo R-squared</b>	0.1628	0.1586	0.1441	0.4123	0.168	0.1505	0.1807	0.4553

lnGDP = log of GDP, lnGDPP = log of per capita GDP, GDPG = GDP growth rate, lnExport = log of exports to host countries, RCA\_hitech = revealed comparative advantage index in hi-tech exports, orefuel = share of ores and fuels in the host country's total exports, raw = host country's share in the PRC's total raw materials imports, inflation = GDP deflator, exchanf = exchange rate change relative to previous year, \*\*\* = significant at the 1% level, \*\* = significant at the 5% level, \* = significant at the 10% level, OFC = offshore financial center. All regressions include industry and year dummies. Numbers in parentheses are absolute value of z-statistics.

## V. Chinese, Japanese, and American Style ODI

### A. Market-seeking and Efficiency-seeking ODI

There are two typical styles of ODI, Japanese and American, the identification of which can only be in relative terms (Kojima 1978). Many firms undertake ODI for multiple objectives and these may evolve over time. Japanese-style and American-style ODI correspond mainly to the pattern of ODI at certain stages of economic development. In fact, today's Japanese ODI is closer to American-style than Japanese-style ODI as classified below.

In this stylized world, US ODI is driven mainly by the market-seeking objective. Although exporting and licensing could also serve to open foreign markets, there are certain advantages to ODI. On one hand, compared with exports, ODI has the benefit of reducing transportation costs and avoiding tariff and other trade barriers. On the other hand, internalizing market transactions through ODI enables firms to overcome transaction costs due to incomplete external markets and maximize profits from its proprietary advantages (Buckley and Casson 1985).

Unlike its US counterpart, Japanese ODI followed a different path, at least in its early years in the 1960s and 1970s. In early postwar Japan, labor-intensive light industries constituted the main part of the Japanese manufacturing sector, accounting for 74.7% of total manufacturing output and 43.5% of total exports in 1955. But in the 1960s, especially since 1963, rising wages started to pressure the competitiveness of labor-intensive industries in Japan. Many of them moved to the Republic of Korea; Singapore; Taipei, China; and other Asian countries with lower labor costs. Following labor-intensive light industries, heavy industries led the second wave of Japanese ODI in the 1970s. Kojima (1978) called the industries under significant cost pressure at home "marginal industries" and proposed the "marginal industry expansion theory."

There are three key differences between market-seeking US ODI and efficiency-seeking Japanese ODI. First, it had been the marginally efficient firms in Japan that exited from the contracting sector and took initiative to move overseas and not the leading firms as in the US. Second, in the case of Japanese ODI, the more competitive an industry is, the greater is the need for overseas production. In the case of US ODI, the more monopolistic or oligopolistic the industry is, the greater is the potential to exploit through overseas operation. Third, US affiliates were primarily host-market-oriented, while Japanese affiliates were mostly export-oriented (Ramstetter 1991).

### B. Chinese-style ODI: Enhancing Domestic Productivity

Chinese-style ODI presents a sharp difference from its counterparts in Japan, the US, and even third-world countries. Chinese ODI by large manufacturers is not

meant to exploit existing advantages for exploring market opportunities in the host country. Neither is it meant to take advantage of cheap labor and other production factors by moving production facilities overseas. Instead, large Chinese enterprises pursue ODI primarily to augment existing assets and strengthen competitiveness and to secure the supply of resources and raw materials needed for domestic production.

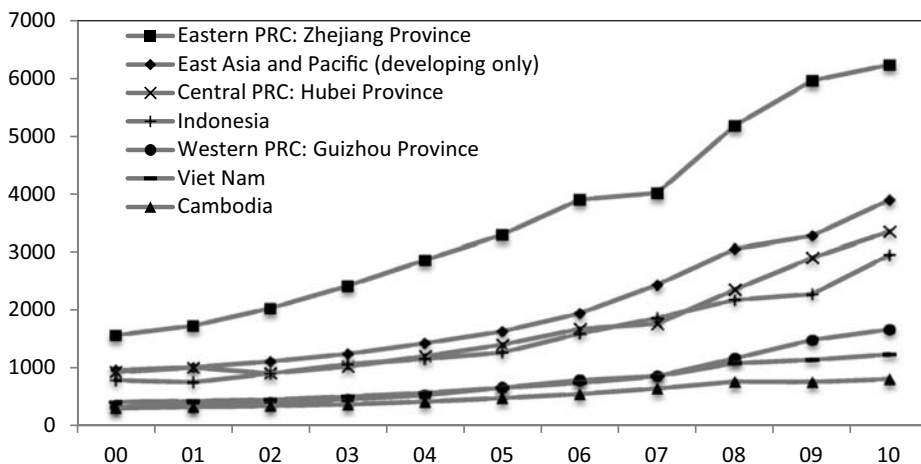
Similarly, ODI by Chinese SMEs is basically designed to serve domestic production. However, unlike the large investors, the channel used to strengthen domestic production is not by acquiring strategic assets or securing natural resources and raw materials but by facilitating Chinese exports to host economies.

We argue that there are at least three reasons explaining why the key theme of Chinese ODI is to strengthen domestic production rather than to expand overseas production.

First, in response to rising domestic production costs, Chinese firms prefer moving their factories inward to the country's less prosperous inland areas rather than operating across borders, which could entail huge uncertainties.

Facing a similar situation of rising wage levels, an appreciating currency, and increasing environmental and resource constraints, Chinese manufacturers, unlike their Japanese counterparts in the early postwar period, do not respond by moving factories abroad on a large scale. The key reason lies in the diversity and imbalance of economic development among provinces within the PRC. As shown in Figure 1, when per capita GDP in Zhejiang Province in the eastern part of the country rose to more than \$6,000 in 2010, the figure for Hubei Province in the central region and Guizhou Province in the western region amounted to only \$3,300 and \$1,700, respectively. Thus, factories in the more developed eastern coastal areas can find

Figure 1. GDP per Capita of Selected Regions in the PRC and East Asia, 2000–2010 (\$)



Source: China Statistical Yearbook, National Bureau of Statistics; World Development Indicators, World Bank.



room to relocate to the central and western regions where production costs are lower.

Admittedly, even compared with the western part of the PRC, some adjacent Asian developing economies such as Viet Nam and Cambodia still enjoy an advantage of cheaper labor and, in fact, are increasingly attracting more Chinese investments. But the lack of supporting infrastructure, possible hyperinflation concerns, territorial disputes with the PRC, and difficulties associated with and the unfamiliarity of operating in foreign countries, result in the premium from cheaper labor being less attractive.

Second, the PRC needs to employ technology-seeking ODI to transform from being a manufacturing big state in terms of scale to a manufacturing strong state in terms of technology and brand names.

Compared with the primary and service sectors, the Chinese manufacturing sector indeed enjoys a comparative advantage in terms of performance in export markets and development in the domestic economy (Huang and Wang 2011). But such advantages have focused on products such as steel, coal, cement, televisions, washing machines, refrigerators, air conditioners, microwaves, and motorbikes, which require minimal technological investment in their assembly and production (Wang and Wang 2011). More than half of the locally-made products rely on foreign technology and components. As a result, Chinese manufacturers only enjoy a fairly small profit margin, with most of the profits accruing to foreign multinationals for their provision of technology, design, and other services. Another outcome has been the passive role of Chinese firms and their constrained ability to engage in core technology and R&D.

Moreover, the PRC lacks world-famous brand names. According to “The World’s 500 Most Influential Brands in 2011,” nine out of the top ten comprised US companies, while the top five were in high-tech industries (Table 7). Included in

Table 7. The World’s 500 Most Influential Brands in 2011

World’s Top 10				Chinese Brands		
Rank	Name	Industry	Country	Rank	Name	Industry
1	Apple	Computer	U.S.	50	CCTV	Media
2	Facebook	Internet	U.S.	65	China Mobile	Telecommunications
3	Google	Internet	U.S.	77	ICBC	Banking
4	Microsoft	Software	U.S.	82	STATEGRID	Energy
5	IBM	Computer	U.S.	121	Lenovo	Computer
6	Wal-Mart	Retail	U.S.	127	Haier	Home Appliances
7	Coca-Cola	Food and Beverage	U.S.	215	BOC	Banking
8	Amazon	Internet	U.S.	240	CCB	Banking
9	Mercedes-Benz	Automobile	Germany	264	China Life	Insurance
10	McDonalds	Food and Beverage	U.S.	275	HUAWEI	Electronics and Communication

Source: The World Brand Lab.

the list were 239 US companies, 43 French companies, 41 Japanese companies, 39 British companies, 25 German companies, and only 21 Chinese companies. Of this short list of Chinese firms, a large segment was owned by the central government, concentrating in monopolized or highly-controlled industries such as finance, energy, telecommunications, and petrochemicals.

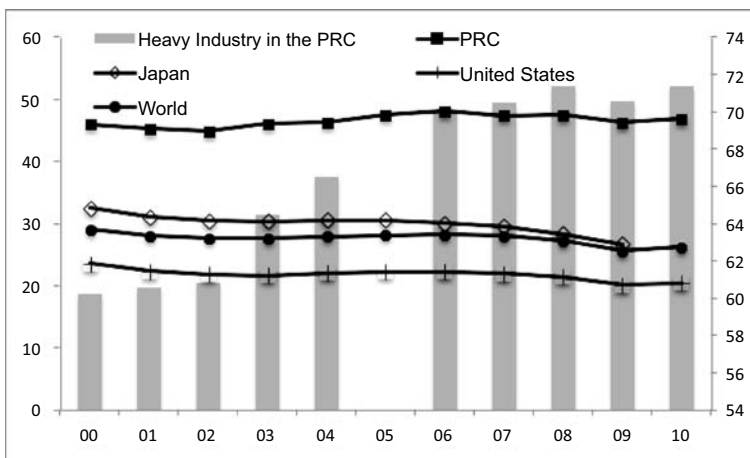
Chinese enterprises therefore would not waste any chance to acquire strategic assets such as brand names, technology, distribution networks, R&D facilities, and managerial competencies to elevate their core competitiveness in an increasingly tough world market and more liberalized domestic economy.

Finally, an exceptionally large and heavy secondary industry in the PRC requires a secure supply of resources and raw materials.

The share of industry value-added in the country's GDP averaged at 46.5% during 2000–2010. In 2009, for example, industry constituted 46.2% of the PRC's GDP compared to 20% in the US, 26.7% in Japan, and the world average level of 25.4%. This large secondary industry underpins the PRC as the world's manufacturing big state, serving products consumed on a global scale.

Moreover, an obvious heavy industrialization process had occurred in the PRC from the middle to late 1990s. The share of heavy industry in total industrial output rose sharply from 57.1% in 1998, to 60.2% in 2000, and further to 71.4% in 2010 (Figure 2, 1998 not in the chart.) This industrialization process requires more resources and energy inputs. For a long time now, the country has relied on imports to meet its demand for commodities. However, the commodities boom after

Figure 2. Share of Industry Value-added in GDP of Selected Countries and Share of Heavy Industry in the Industry Sector of the PRC, 2000–2010 (%)



Note: The line charts correspond to the share of industry in GDP in selected countries and refer to the left-hand axis.

The bar chart, the share of heavy industry in the industry sector of the PRC, refers to the right-hand axis.

Source: China Statistical Yearbook, National Bureau of Statistics; World Development Indicators, World Bank.

2002 has hiked prices beyond the level that many Chinese producers can bear and still make profits. Hence, Chinese manufacturers, and not only Chinese resource companies, are looking outward, taking major stakes in overseas resource projects and acting as both shareholder and customer.

## **VI. Concluding Remarks: Is There an Integrated ODI Life Cycle?**

The PRC's jump onto the stage of global ODI is a relatively recent phenomenon. Yet this development is already prominent globally due to the rapidly growing size of Chinese investment and the political sensitivity surrounding state-owned enterprises (SOEs).

Instead of moving factories overseas, Chinese ODI seeks to strengthen domestic production. Instead of exploiting existing firm-specific advantages, Chinese ODI aims to improve investing firms' competitiveness. As we have demonstrated in this study, Chinese firms going abroad take a stake in overseas resources, acquire advanced foreign technologies and well-established brand names, gain access to market channels, and set up trade-facilitating operations.

Chinese-style investment is very different from traditional ODI of developed economies, which pursues increased market sales or reduced production costs by transferring technology and know-how from headquarters to far-flung operations in the host economy. We identify American-style ODI as market seeking (overcoming market entry barriers), Japanese-style ODI as efficiency seeking (taking advantage of low production costs), and Chinese-style ODI as technology seeking (strengthening domestic firms' productivity and production). Of course, distinctions among these different styles are only relative—firms often have multiple investment motivations such that different styles may exist in the same country.

Economists have also observed technology-seeking ODI in other developing countries, but they have never been as large and as high profile as in the PRC today simply because developing economies normally do not invest overseas massively. The PRC, though still a middle-income country, is different in this regard on two fronts. First, as the global manufacturing center, the country faces increasing international competition but still enjoys some cost advantage. Second, the PRC has maintained large current account surpluses over the past decade and accumulated foreign exchange resources, taking the main form of reserves but which could be utilized for ODI. These also explain why Chinese-style (i.e., technology-seeking) ODI has not become a prominent international phenomenon until today.

But Chinese-style ODI may also be a transitory phenomenon—as wages, interest rates, exchange rates, and energy prices continue to rise, the PRC may soon lose its cost advantage even in inland provinces. This could force Chinese companies to move overseas to maintain competitiveness, just like what happened when the Republic of Korea; Hong Kong, China; and Taipei, China moved their

textile and clothing factories to Southern PRC in the early 1980s. This could also mean Chinese-style ODI gradually giving way to Japanese-style efficiency-seeking ODI (the so-called marginal industry expansion).

We suspect that there is an integrated life cycle of ODI, where evolution is primarily determined by the level of economic development. Developing countries normally have relatively low levels of both technology and production costs. If they had enough funds, they could engage in Chinese-style ODI to take advantage of low domestic cost as well as advanced overseas technology. As the cost of domestic production rises, developing countries could lose their cost advantage and consequently engage in Japanese-style ODI. At the same time, their domestic companies could move up the technological ladder to stay competitive. With technology improving, cost becomes a less critical factor, while R&D and innovation become more crucial. Eventually, these countries may engage in American-style ODI to overcome market entry barriers in host countries. This was probably what happened to Japanese ODI over the past two decades.

Such an ODI life cycle is logically linked to Dunning's investment development path theory, under which framework a country evolves from a host country of FDI to a home country of ODI. The ODI life cycle explains how a home country of FDI gradually shifts from Chinese-style ODI to Japanese-style ODI and then to American-style as the economy develops.

Following this life cycle thesis, we expect ODI of Chinese SMEs to surge and become a dominant global phenomenon in the coming decade. Currently, Chinese ODI capturing international headlines mostly trace to the country's SOEs. This is going to change for several reasons. First, the PRC's (low) cost advantage is disappearing rapidly. At the moment, many factories are migrating from coastal areas to inland regions, but even in interior cities, costs are growing rapidly. Cost pressures will be most significant on SMEs in labor-intensive industries. Second, the PRC is now accelerating capital account liberalization. While the whole process may take some time, complete liberalization of ODI is on top of the agenda.

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