



# Chinese Investments in Brazil from 2007-2012:

A review of  
recent trends

 CHINA-BRAZIL  
BUSINESS COUNCIL  
中国-巴西企业家委员会

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**About this research:**

Over the past few years, an unprecedented surge in Chinese foreign direct investment (FDI) in Brazil has marked a new phase in Sino-Brazilian economic relations. This phenomenon comes after a decade of increasing Chinese outward foreign direct investment (OFDI) globally. In 2010 an influx of US\$13.1 billion in confirmed investment made China one of the largest sources of foreign direct investment in the country.

This book builds and expands upon CBBC's previous work by providing a review of Chinese investments in Brazil for the period between January 2007 - June 2012. Such detailed analysis is especially relevant given that China is now one of Brazil's most important economic partners. Furthermore, currently available official data do not accurately capture the full extent or influence of Chinese FDI on Brazil's domestic economy. Therefore, ongoing microlevel data analysis tracking China's growing investment presence in Brazil would be an important tool that can inform and shape Brazil's long-term economic agenda.



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June 2013

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# Table of Contents

<b>Presentation</b>	<b>6</b>
<b>Executive Summary</b>	<b>8</b>
<b>Introduction</b>	<b>17</b>
Data and Methodology	<b>19</b>
<b>Review of Chinese Outward Foreign Direct Investment</b>	<b>22</b>
The Role of the State in Regulating Chinese OFDI	<b>23</b>
Main Actors	<b>26</b>
Chinese Companies and the Expansion of OFDI	<b>28</b>
Global Distribution of Chinese Investments	<b>30</b>
<b>Characteristics of Chinese Investment Projects in Brazil</b>	<b>33</b>
Ownership Structure	<b>38</b>
Investment Motivations	<b>41</b>
Entry Mode	<b>43</b>
Sectoral Distribution	<b>47</b>
Geographic Distribution	<b>51</b>
<b>Case Studies</b>	<b>54</b>
Sinopec Case Study	<b>54</b>
Company Profile	<b>54</b>
Growth Trajectory within China's Oil and Gas Sector	<b>55</b>
Internationalization Trajectory	<b>61</b>
Sinopec in Brazil	<b>66</b>
CBBC Analysis – Sinopec Case	<b>71</b>
Huawei Case Study	<b>72</b>
Company Profile	<b>72</b>
Growth Trajectory and Telecom Sector in China	<b>73</b>
Internationalization Trajectory	<b>75</b>
Huawei in Brazil	<b>79</b>
CBBC Analysis – Huawei Case	<b>81</b>
<b>Conclusion and Implications</b>	<b>84</b>
<b>Bibliography</b>	<b>86</b>

# Presentation

The China-Brazil Business Council's (CBBC) newest publication "Chinese Investment in Brazil from 2007-2012: An Analysis of Recent Trends," presents the results of its latest research sponsored by the Inter-American Development Bank (IDB).

In recent years, there has been an unprecedented increase in foreign direct investment (FDI) from China to Brazil, marking a new phase of China-Brazil business relations. In spite of the speed and scale of this growth, the understanding of this economic trend remains limited. Building on previous research, the Council provides new insight to improve business partnerships and allow government decision-makers to take advantage of this economic relationship.

In the report, the Council identified 60 investment projects announced by 44 Chinese firms and estimated a total investment of US\$ 24.4 billion. The first phase of China's investments in Brazil focused on securing natural resources to satisfy its increased demand for minerals, oil and gas, as well as agricultural products. In a subsequent phase, Chinese capital flowed into telecommunications, energy, and infrastructure projects. More recently, Chinese investors have targeted the Brazilian market for capital goods, automobiles and electronics.

Today, the increase in Chinese investments in Brazil's service sector marks the fourth stage of this economic partnership. Three of China's four main state banks have announced investments in the country: Bank of China, Industrial and Commercial Bank of China and China Construction Bank. In addition to financing Chinese companies working in Brazil, these banks also play a critical role in China's overall strategy to internationalize its currency.

To better characterize Chinese investments in Brazil, the report includes two case studies on Chinese companies operating in the country. The first examines Sinopec, which invested in oil exploration and production projects, and the second considers Huawei, which identified Brazil as a new market for its technology. These case studies suggest that



Chinese multinational firms behave similarly to other international companies with respect to abiding by market rules. At the same time, their concerns regarding high taxes, excessive bureaucracy, and slow procedures reflect challenges faced by other multinationals in Brazil.

This study is an outcome of CBBC's Research Program, whose primary purpose is to follow the development of Brazil-China relations and provide analysis to enhance the business climate between the two countries. CBBC has previously published two other reports on bilateral investments. The first one was published in May 2011 and provided an overview of Chinese investment in Brazil in 2010 and 2011. The second, published in July 2012, identified and analyzed the activities of 57 Brazilian firms doing business in China.

Expanding on these earlier works, this document provides new insights on the development of the Sino-Brazilian economic relationship. The research was conducted by the CBBC research and analysis staff, led by Claudio Frischtak – Consultant, André Soares – Coordinator of Research and Analysis, and Tania O'Conor – Research Associate. We would also like to thank the IDB for its support throughout the research process, in particular, Antoni Esteveordal, Maurício Mesquita, Joaquim Tres and Peggy Tsukakoshi.

Thank you to all of the contributors.



**Ambassador Sergio Amaral**  
President



**Julia Dias Leite**  
Executive Secretary

# Executive Summary

Over the past few years, an unprecedented surge in Chinese foreign direct investment (FDI) in Brazil has marked a new phase in Sino-Brazilian economic relations. This phenomenon comes after a decade of increasing Chinese outward foreign direct investment (OFDI) globally. Nevertheless, throughout the 2000s as the geographic distribution of Chinese OFDI widened significantly, Brazil remained noticeably absent from the list of main countries that served as host to Chinese OFDI. This picture changed dramatically in 2010 when an influx of US\$ 13.1 billion in confirmed investment - twenty times the accumulated value of Chinese investment in Brazil during the previous two years - made China one of the largest sources of foreign direct investment in the country. Despite the speed and scale of the increase in Chinese investment in Brazil, understanding of this economic phenomenon remains limited. In addition, the rate in which Chinese companies are expanding their presence throughout the country has stimulated considerable public debate that would benefit from a more accurate picture of this investment boom.

This paper builds and expands upon China-Brazil Business Council previous work by providing a review of Chinese investments in Brazil for the period between January 2007 - June 2012. Such detailed analysis is especially relevant given that China is now one of Brazil's most important economic partners. Furthermore, currently available official data do not accurately capture the full extent or influence of Chinese FDI on Brazil's domestic economy. Therefore, ongoing micro-level data analysis tracking China's growing investment presence in Brazil would be an important tool that can inform and shape Brazil's long-term economic agenda.

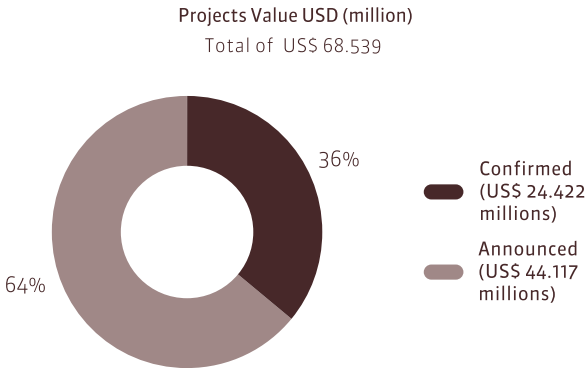
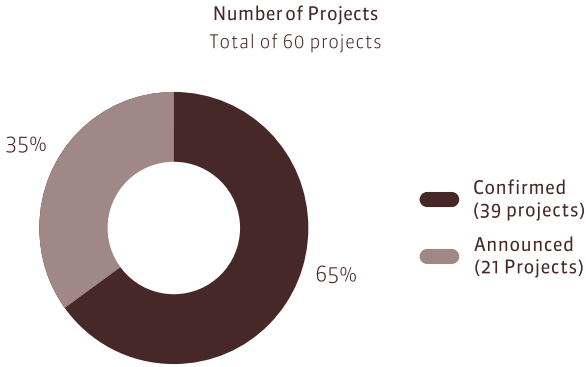
## **Characteristics of Chinese Investment Projects in Brazil**

For the period of January 2007 - June 2012, CBBC has recorded a total of 60 announced Chinese investment projects for a total of US\$ 68.5 billion. From interviews with Chinese companies and their Brazil-

ian partners, the Council was able to confirm 39 projects, while at the time of this report the remaining 21 projects are still under negotiation or being evaluated by both parties. The total value of confirmed investment amounts to US\$ 24.4 billion over the 5 year period.

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### Number of projects and volume of Chinese investments in Brazil - 2007 to June 2012



Source: CBBC consolidated list

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During the two year period from 2007-2009, Chinese investments were fairly limited in quantity and value, composed of only seven announced projects, with a total value of less than US\$ 600 million. This picture changed drastically in 2010, with the announcement of 21 Chinese investment projects, three times the accumulated total from 2007-2009. This level of investment was main-

tained in 2011 and in the first half of 2012, during which 32 additional projects were announced. The sharp increase in announced OFDI in 2010 and subsequent two years of consecutive high levels signaled a new phase in the economic relationship between Brazil and China. This relationship initially characterized by the quick expansion of trade flows between the two countries, gained a new and important dimension in 2010 – significant and sustained flows of Chinese investment into Brazil.



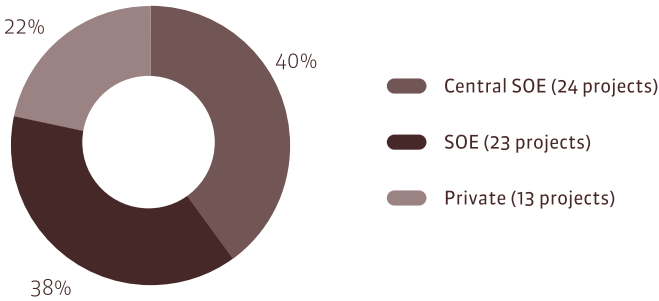
Source: CBBC consolidated list

### Ownership Structure

Over the past 5 years, 44 Chinese firms have announced 60 investment projects in Brazil. The break-up in ownership of Chinese companies investing in Brazil is relatively balanced between Central State-Owned Enterprises (Central SOEs), State-Owned Enterprises (SOEs), and private companies. However, overall, the 13 private company projects are far less important when compared to the 47 projects that are partially or completely state-funded.

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Chinese Investment Projects by Ownership (number of projects)  
- 2007 to June 2012



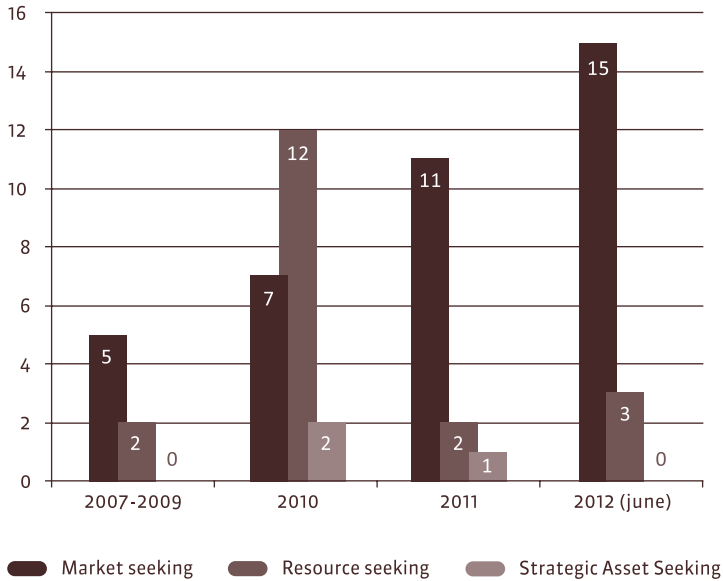
Source: CBBC consolidated list

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**Investment motivations**

The majority of Chinese investment projects in Brazil are market-seeking in nature. China's growing presence in Brazil has stimulated much public debate, heightened at times by a media narrative that criticizes Chinese FDI for being primarily resource seeking at the expense of manufacturing and other activities. While resource seeking investments made up the majority of announced Chinese investment projects (57% of the total amount) in 2010, overall, this is clearly not the case. In the years prior to and post-2010, market seeking projects have dominated China's investment portfolio in Brazil.

Evolution of investment projects by motivation (number of projects)



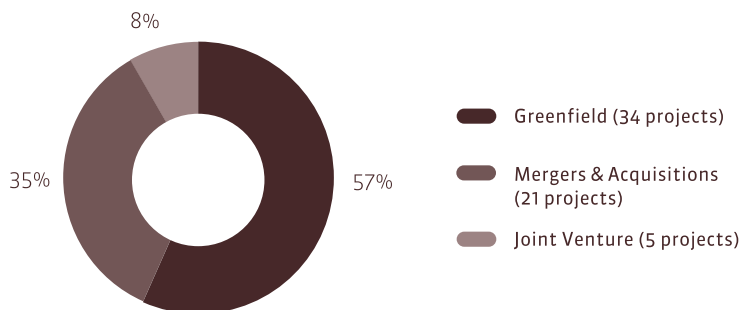
Source: CBBC consolidated list

### Entry Mode

From 2007-June 2012, the majority of announced Chinese investments entered Brazil through greenfield projects (57% of the total). These announcements created expectations in Brazil for the potential benefits that come alongside greenfield projects, such as the expansion of the domestic industry capacity and the generation of new jobs.

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Chinese Investment projects by entry mode (number of projects)  
- 2007 to June 2012



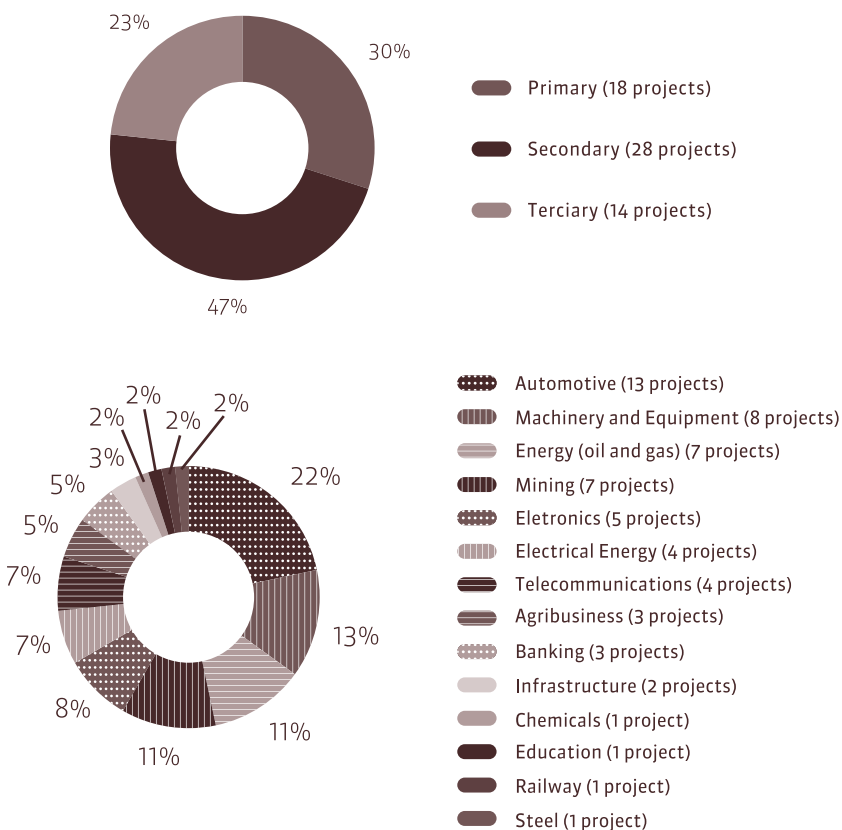
Source: CBBC consolidated list

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### Sectoral Distribution

Chinese investments are spread across a wide range of sectors in manufacturing, natural resources, and services. The automobile (13 projects), machinery and equipment (8 projects), and electro-electronics (5 projects) sectors combined make up 43% of the total announced projects, followed by energy and gas (7 projects), telecommunications (4 projects), and banking (3 projects).

### Chinese investment projects by sector (number of projects) - 2007 to June 2012



Source: CBBC consolidated list

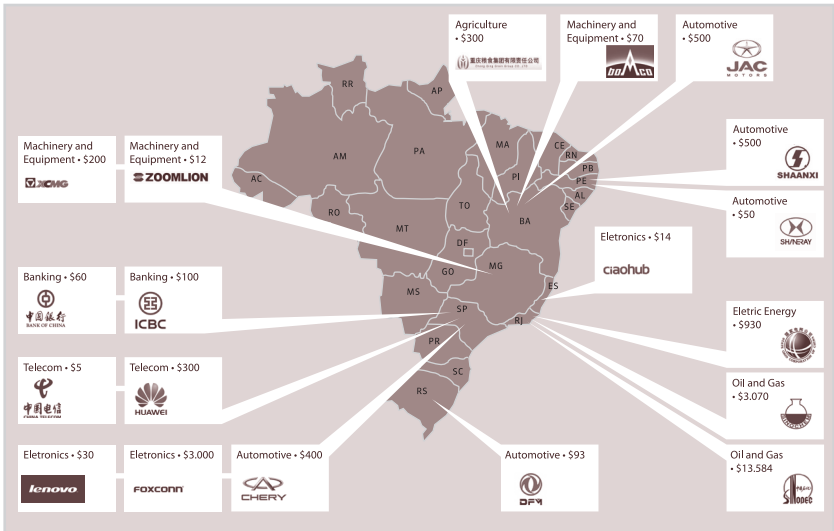
The sectoral distribution of OFDI highlights two major characteristics of Chinese FDI in Brazil that are central to the ongoing public debate on this topic. The first is the predominance of investment projects that aim to deepen the integration of both economies, primarily through trade expansion and facilitation. These investments are a direct result of China's ongoing demand for Brazilian natural resources. The second and more recent aspect is the predominance of investments that impose new challenges to Brazil's industrial sector. Chinese entrants compete head-on for the domestic market, combining locally produced and imported Chinese manufactured inputs, giving them a potentially low price advantage.



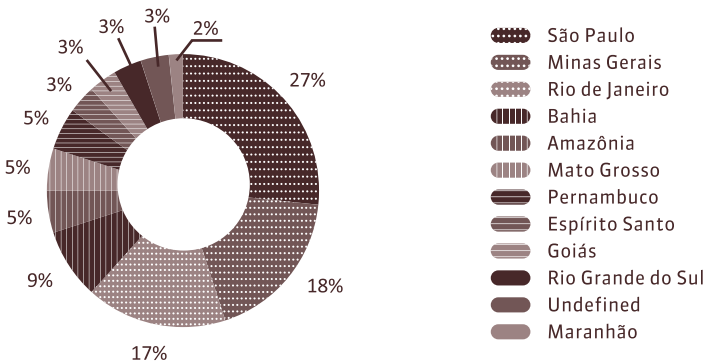
## Geographic Distribution

The majority of Chinese investments are concentrated in Brazil's southeastern region, with the states of São Paulo, Rio de Janeiro, and Minas Gerais making up 62% of the total announced projects. This can be explained by the large number of energy and mining operations located in Rio de Janeiro and Minas Gerais, and the concentration of market-seeking projects in São Paulo.

### Highlights of Chinese Investment Projects in Brazil (US\$ million)



### Geographic distribution of Chinese Investment projects by State (number of projects)



Source: CBBC consolidated list

## **Case Studies**

The third section of the report consists of two in-depth case studies that provide a better understanding of the individual trajectories, long-term strategies and capabilities of two Chinese firms established in Brazil. As the majority of Chinese companies are motivated by market seeking or natural resource seeking strategies, CBBC selected one representative from each category: Huawei and Sinopec. Each case includes a company profile, historical overview and internationalization trajectory, as well as a description of its investment motivations, current activities and future perspectives in Brazil.

## **Conclusion**

Chinese investment is simply an addition – a significant one, of course – to the already large inflows of FDI to the Brazilian economy. Eventual restrictions it may face in the future are unlikely to derive from its national origin: constitutionally, the country does not discriminate against any nationality when it comes to FDI and whatever restrictions there are affect FDI from all origins. Some of them are common in most countries, particularly those related to national security concerns; others are barriers that are still under discussion in court, such as the regulations related to land acquisition by companies controlled by foreign nationals.

Still, the set of relevant obstacles to investment in Brazil are common to both domestic and foreign investors: regulatory uncertainty, a heavy tax burden and a complex tax code, poor infrastructure, high cost of services, and an outdated and often dysfunctional labor code. In this sense, Chinese investors on the whole will be dealing with the same problems as Brazilian firms and they will not abuse the country's hospitality by voicing their complaints and suggestions. To the contrary, they will be acting in the public interest.

At the same time, Chinese firms can differentiate themselves and play a very constructive role if they educated and helped their suppliers, partners, and clients in Brazil break into the increasingly crowded but highly dynamic Asian market – including by investing in China proper as a means to integrate Brazilian firms in value added regional chains. This would be perceived in Brazil as a significant positive contribution from the newcomers.

# Introduction

Over the past few years, China and Brazil, two of the world's largest emerging economies, have experienced a significant increase in bilateral trade and investment activity. In 2009, China overtook the United States to become Brazil's single largest trading partner, a position it maintains to date, with bilateral trade flows that have more than doubled over the past few years. In 2012, trade reached a total value of US\$ 75 billion, a 104% increase over 2009. Overall, Brazilian exports to China have been concentrated in commodities – primarily iron ore and oil used to fuel China's long-term infrastructure and housing investment projects - as well as soy beans and meat products necessary to fill the gap between China's production capacity and consumer demand. Meanwhile, Brazilian imports from China have been primarily in the form of machinery and equipment, which account for over 46% of Brazilian imports from China in 2012. While these value-added imports increase the efficiency of Brazil's industrial sector, the asymmetrical commercial relationship between the two countries has generated the concern in Brazilian society and government that such a pattern might lead over time to de-industrialization. Still, the Brazilian economy has benefited from the positive terms-of-trade shock driven in the last decade by China's accession in the global economy and an accumulated trade surplus of US\$ 23.3 billion with China since 2007 (US\$ 6.9 billion in 2012), as China's appetite for natural resources continually outpaces Brazil's demand for manufactured products.

More recently, an unprecedented surge in Chinese foreign direct investment (FDI) in Brazil has marked a new phase in Sino-Brazilian economic relations. This phenomenon comes after a decade of increasing Chinese outward foreign direct investment (OFDI) globally. Nevertheless, throughout the 2000s as the geographic distribution of Chinese OFDI widened significantly, Brazil remained noticeably absent from the list of main countries that served as host to Chinese OFDI. This picture changed dramatically in 2010 when an influx of US\$ 13.1 billion in confirmed investment - twenty times

the accumulated value of Chinese investment in Brazil during the previous two years - made China one of the largest sources of foreign direct investment in the country. Despite the speed and scale of the increase in Chinese investment in Brazil, understanding of this economic phenomenon remains limited. In addition, the rate at which Chinese companies are expanding their presence throughout the country has stimulated considerable public debate that would benefit from a more accurate picture of this investment boom.

This paper, one in a series of research reports released by the China-Brazil Business Council (CBBC), seeks to address this knowledge gap by building upon our previous studies on Sino-Brazilian trade and investment relationships. Founded in 2004, the China-Brazil Business Council is dedicated to promoting economic ties and facilitating dialogue between the private and public sectors in the two countries. Composed of two independent sections based in Brazil and China, the CBBC has built up a membership base of leading companies with international exposure in the two countries. In response to growing bilateral economic activity, the Council has spearheaded a research program to enhance understanding and provide updated information and analysis on trade and investment activity, as well as other issues of importance to the Sino-Brazilian relationship.

In 2011, the CBBC released its report, "Chinese Investments in Brazil: A New Phase in the China-Brazil relationship." This study marked the first step towards a better understanding of recent trends and patterns of Chinese direct investment in Brazil. Motivated by the lack of reliable data regarding Chinese FDI in the country, the authors used an alternative methodology to quantify and characterize investment inflows and ownership structure in Brazil. The years 2010-2011 marked a new phase in the investment relationship between the two countries. This relationship is characterized by a realignment of China's FDI activities in Brazil: from securing long-term investment for commodity supplies to implementing a market-seeking strategy in the manufacturing sector with the potential for establishing a Latin America-oriented export platform in Brazil.

This paper builds and expands upon CBBC's previous work by providing a review of Chinese investments in Brazil for the period between January 2007- June 2012, including two in-depth case studies that provide a better understanding of long-term strategies and capabilities of Chinese firms targeting Brazil. Such detailed analysis is especially relevant given that China is now one of Brazil's most important economic partners. Furthermore, currently available official data do not accurately capture the full extent or influence of Chinese FDI on Brazil's domestic economy. Therefore, ongoing micro-level data analysis tracking China's growing investment presence in Brazil would be an important tool that can inform and shape Brazil's long-term economic agenda.

This study is divided into four parts:

- **Section 1** provides a historical review of Chinese outbound investments. The study takes a comparative approach in analyzing the motives and characteristics of Chinese FDI across various regions, which will later be used in the analysis of recent trends in China's FDI in Brazil.
- **Section 2** characterizes the announced Chinese investment projects in Brazil from January 2007-June 2012 according to ownership structure, investment motivation, entry mode, sectorial and geographic distribution.
- **Section 3** consists of two in-depth case studies of Chinese companies, Huawei and Sinopec, currently operating in Brazil. Each case study includes a company profile, historical overview, and internationalization trajectory, as well as a description of its investment motivations, current activities, and future perspectives in Brazil.
- **Section 4** concludes by drawing upon the previous analysis to consider possible implications of China's growing investment presence in Brazil.

## Data and Methodology

Official data on foreign direct investment are unreliable due to a variety of factors that are important to highlight:

The official source for Chinese OFDI data is the Annual Statistical Bulletin on China's Outward Direct Investment, which is compiled by the Chinese Ministry of Commerce (MOFCOM) and published with the State Administration of Foreign Exchange (SAFE) and the National Bureau of Statistics (NBS). Although these institutions have made significant progress over the years towards complying with international standards, discrepancies in compilation methods and a lack of transparency result in a limited picture of Chinese OFDI patterns.

MOFCOM compiles its data using an administrative approach based on the information firms provide when registering their investment projects. This method suffers from at least two major drawbacks. First, statistics reflect government-approved projects rather than actual capital flows, understating or failing altogether to account for the movements of companies that evade the government's approval process. The second major drawback is that the registration process does not require Chinese companies to report the final destination of their investments or its targeted sector (Hanemann and Rosen 2009). As a result, many companies list stopover destinations, such as offshore financial

centers and tax havens through which their investments pass. This method significantly skews the official data making it difficult to accurately track the geographical distribution of Chinese investments. For example, in 2009 the Cayman Islands, British Virgin Islands, and Hong Kong received 79% of net non-financial outflows from China according to MOFCOM (MOFCOM 2010).

Another relevant issue concerning the use of official statistics is a phenomenon known as “round-tripping,” or the flow of funds out of and back into a country as FDI via an offshore location. This is common practice in China, where companies often direct money to Hong Kong and back to the mainland in order to take advantage of preferential FDI treatment and tax breaks given to foreign companies. Some economists estimate that this phenomenon inflates OFDI numbers by more than one third (Xiao 2004). Moreover, when relying on official data there is a significant lag between real-time investment and the date of official data release. As MOFCOM data is used as a basis for the statistics provided by institutions such as the United Nations Conference on Trade and Development (UNCTAD) and the Organization for Economic Cooperation and Development (OECD), it is difficult to obtain an accurate picture of Chinese OFDI relying solely on these sources.

Brazilian official FDI data, compiled and disseminated by the Brazilian Central Bank, also suffers from inaccuracies for similar reasons. Due to difficulties in tracking the origin of investment flows, the Bank only observes and registers the last step of capital flows before they enter Brazil. This methodology distorts the geographic distribution of investment flows that often go through intermediary tax havens. For example, according to official data, Sinopec’s US\$ 7.1 billion investment in Repsol Brazil is attributed to Luxemburg rather than China. In addition, Brazilian inward FDI data is disaggregated only by country and sector, with no individual attributes of investment projects. Furthermore, it is often the case that multinational firms use profits earned from local operations to reinvest. Reinvested earnings are registered by the Central Bank as an investment inflow, causing distortions in the figures. Lastly, multinationals also utilize inter-company loans to finance overseas operations, which they register as inward FDI at the Central Bank to gain greater profit repatriation.

As a result, many academics and policy analysts studying Chinese OFDI patterns develop alternative methodologies via surveys, media-tracking, interviews, and other secondary sources to register investment. Drawing upon these previous studies, CBBC designed its own methodology to track Chinese investment projects in Brazil, utilizing three main sources. These include:

the systematic monitoring of specialized media, which generally announces the main investment decisions made by foreign (and local) firms targeting specific sectors in Brazil;

interviews with companies, government agencies, business associations, and embassies overseeing relevant investment projects;

the examination of company financial records and other public documents that confirm or strongly suggest investment in the country.

After compiling a database of announced projects, CBBC classifies the status of each project as either “announced” or “confirmed.” “Announced” projects are those that are still at the planning and negotiation stage, while those classified as “confirmed” have already been initiated. A project is confirmed directly with the Chinese company or the Brazilian partner, or through official company reports or financial records. It is important to clarify that the data used in this study is comprised of both “confirmed” and “announced” investment projects. As the objective is to uncover key trends and drivers of Chinese companies targeting Brazil, the analysis presents an aggregate picture of total investment projects, including those still under planning or discussion.

This report presents both the total number and value of announced and confirmed projects over the past five years; however, the subsequent analysis of FDI characteristics is based solely on the number of projects. This approach was chosen to provide the reader with an in-depth picture of the rate and direction in which Chinese investments are entering the country. Using value figures to indicate trends in Chinese investment introduces an unwanted bias in the analysis, in this case favoring natural resource-related investment to the detriment of other sectors. For example, the large quantities of manufacturing investment projects entering the country are minor when compared in value terms to acquisitions in the oil and gas industry. Moreover, investment value estimates are only approximate. The larger they are, the more uncertain they tend to become, with actual investments varying enormously from ex-ante projections.

It is important to highlight that after a company announces an investment project, it usually takes several years for the project to be completed; capital enters the country in incremental stages. As CBBC does not have access to company investment schedules, it is not possible to accurately track these investment flows over time. Therefore, CBBC registers the total aggregate value of the investment for the particular year in which an announcement was made. CBBC acknowledges that this method results in a natural discrepancy between CBBC’s confirmed value for a given year and the actual flows entering the country in the same year.

## Review of Chinese Outward Foreign Direct Investment

Foreign direct investment has been a critical feature of China's economic development strategy since the adoption of the "open up and reform" policy in 1978. Eager to jumpstart the economy after a long period of stagnation, the government actively encouraged inward FDI throughout the early reform period. Viewing foreign capital, technology, and management expertise as fundamental to China's growth, the government offered various incentives, including the establishment of Special Economic Zones to attract foreign direct investment.

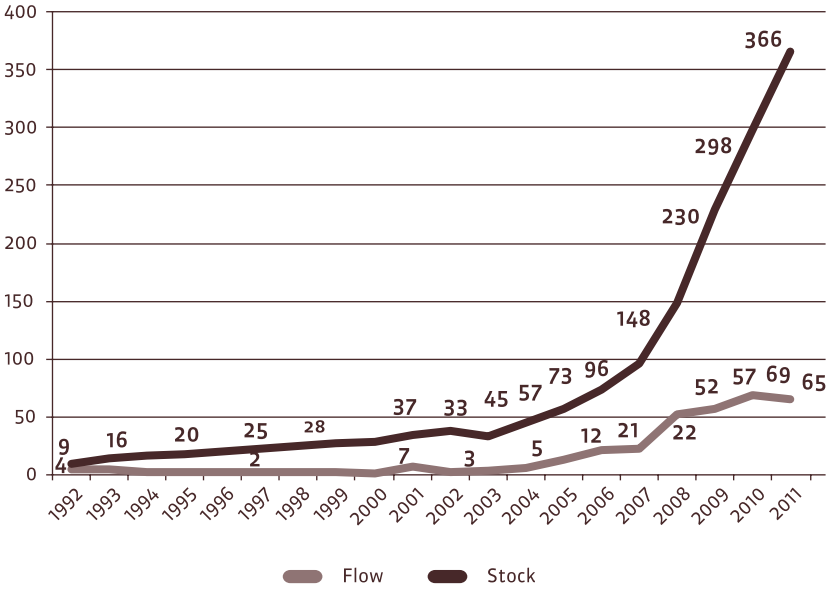
As a result, multinational firms flocked to China drawn by low labor and land costs, preferential policies and tax cuts, as well as a relatively developed infrastructural base. After China's entry into the WTO at the end of 2001, the country became the second largest destination for FDI behind only the United States, and is now the largest recipient of FDI among developing countries, with over US\$ 106 billion in 2011 (UNCTAD 2012).

While inward FDI was critical to China's post-1978 economic modernization and growth, outward FDI remained limited throughout the early reform period due to restrictive government approval procedures, tight foreign exchange control, and a lack of competitiveness on the part of Chinese companies (Buckley et al. 2007). Throughout the 1980s and 1990s, China accounted for an extremely small percentage of global OFDI flows, as the government sought to preserve foreign reserves and focus on attracting inward FDI.

This picture changed dramatically by the mid-2000s, when China emerged as a major global foreign direct investor. According to UNCTAD, from 2004 to 2009, China's OFDI grew exponentially from less than US\$ 6 billion to over US\$ 55 billion a year. By 2010, China overtook Japan with almost US\$ 69 billion in OFDI to become the fifth-largest source of OFDI globally – behind the US, Germany, Hong Kong and France – and bringing China's total global OFDI stock to more than US\$ 300 billion (Graph 1). Overall, China's share in global OFDI flows increased from less than 1% in 2007 to 5% in 2010 (UNCTAD 2012).



Graph 1: China Outward FDI Flows and Stock - 1992-2011 (US\$ Billion)



Source: Unctad

The upward trend in Chinese OFDI is expected to grow steadily over the next decade by at least US\$ 100 billion a year on average (Barclays 2012). A report by the Rhodium Group and Asia Society estimated that cumulative Chinese OFDI could reach between US\$ 1 trillion and US\$ 2 trillion by 2020 (Hanemann and Rosen 2011).

## The Role of the State in Regulating Chinese OFDI

How did this recent growth in outward investment come about? What are the primary government institutions and policies directing OFDI in China? How has the regulatory framework developed over the years? Luo, Xue, and Han (2010) argue that in emerging economies such as China, where firms suffer from latecomer disadvantages, shortfalls in distinctive capabilities, and the liabilities of newness and foreignness, the government's role in providing an

institutional environment that fosters OFDI is critical. Over the past three decades, the Chinese government has transformed its role from a strict regulator of OFDI to a supporter and guide (Luo, Xue, and Han 2010). This is evident through various phases and strategic shifts in China's regulatory framework. Buckley et al. (2007) divide Chinese OFDI policy development into 5 key stages:

- **Stage one**, defined as the period from 1979-1985, is characterized by cautious internationalization efforts on the part of the Chinese government. China had just adopted its “open up and reform” strategy that would reintegrate the country into the global economy. Outward FDI activities, under the control of the State Council, were strictly regulated so that only certain state-owned trading corporations supervised by the Ministry of Foreign Trade and Economic Cooperation (MOFTEC later MOFCOM), as well as provincial and municipal-based international economic and technological enterprises were allowed to invest overseas. In 1985, MOFTEC and the State Administration of Foreign Exchange (SAFE) released the first two directives for the regulation of OFDI and the use of foreign exchange. During this period, 189 projects were approved, amounting to around US\$ 197 million.
- **Stage two**, defined as the period from 1986-1991, is characterized by the government's encouragement of OFDI, allowing additional enterprises to establish foreign affiliates. During this time period, investments were motivated by the need to support the export activity of large trading companies, meet China's demand for natural resources, as well as acquire new information and technology to compete abroad. Approval was granted to 891 projects, totaling around US\$ 1.2 billion.
- **Stage three**, from 1992-1998, is characterized by the expansion of Chinese OFDI and increased regulation by MOFTEC. During this period, Deng Xiaoping made his famous southern tour to publicly endorse further market reforms and encourage greater FDI inflows. As a result of the liberalization policies during this time period, OFDI was officially included in the national development strategy, endorsed by then-General Secretary Jiang Zemin during the 14th National Congress of the Chinese Communist Party in 1992. Following this, local and provincial investment in overseas operations increased, particularly in Hong Kong businesses engaged in real estate and stock speculation. The upward trend in OFDI was interrupted by the Asian Financial Crisis of 1997-98, which caused a reversal of the liberalization policies and a tightening of capital controls. Proposals that involved investments of more than US\$ 1 million were required to be vetted by the State Planning Commission and State Administration of Foreign Exchange Control before given final approval by MOFTEC. As a result of the crisis, individual OFDI project activity declined; nevertheless, the total for the period reached US\$ 12 billion.

- **Stage four**, between 1999 and 2001, is characterized by Buckley as contradictory due to an increase in regulation alongside the government's formal implementation of the "Go Global" (zou chu qu) strategy. Officially implemented in 2000, the "Go Global" strategy promoted and supported Chinese enterprise to internationalize through favorable policies and streamlining of administrative procedures. The plan encouraged Chinese companies to invest abroad through a variety of policy measures, including: export tax rebates, foreign exchange assistance, and direct financial support, particularly in trade-related activities that promoted Chinese exports of raw materials, parts and machinery, and in light-industry sectors like textiles, machinery and electrical equipment. By the end of 2001, Chinese companies had invested in 149 countries around the world.
- **Stage five**, defined as the period post-2001, is characterized by China's ascension into the WTO and further opening up to the global economy. These developments increased competitive pressures for Chinese firms to internationalize. The "Go Global" policy was stressed again in the 11th five-year plan to improve the competitiveness of Chinese companies and the economy as a whole. Starting in 2003, privately owned enterprises were officially allowed to apply for approval to invest overseas. Regulations were streamlined; however, regulatory obstacles in the approval process remained.

In 2011, the "Go Global" policy was reiterated in the 12th five-year plan, with provisions to:

- Improve the overall cross-sectoral coordination mechanism to strengthen the implementation of the "Go Global" strategy, provide macro-guidance and services;
- Enhance the system of foreign investment laws and regulations, actively negotiate and sign investment protection, and avoid double taxation and other bilateral agreements;
- Develop the international energy resource sector; and
- Provide technical support for R&D investment overseas.

The various shifts in OFDI policy reflect domestic political and economic changes, as well as China's increasingly important role in the world economy. From the government's perspective, OFDI serves multiple objectives. It reduces China's dependence on excessive low-return foreign exchange reserves. It enables Chinese firms to secure sufficient long-term supplies of energy and raw materials. Finally, it is an important vehicle for China's further integration into the global economic system, used as a way to boost economic cooperation and cre-

ate political alliances in host countries. In addition, access to foreign markets, capital, new technology, and managerial expertise will further enhance China's economic power and over-all national competitiveness.

## Main Actors

The Chinese central government plays an active role in shaping and encouraging OFDI on a national level. Overseen by the State Council, the main political and regulatory institutions that guide and manage Chinese OFDI include the Ministry of Commerce (MOFCOM), People's Bank of China, State Administration of Foreign Exchange (SAFE), State-owned Assets Supervision and Administration Commission (SASAC), and the National Development and Reform Commission (NDRC). Luo, Xue, and Han (2010) provide a brief overview of the background and primary roles of these government institutions summarized below:

Since the opening up and reform policies period the State Council, the highest organ of state power and administration, has played a leadership role in China's overall OFDI regulation and coordination among various institutions. Over the years, it has periodically drafted major OFDI-related mandates and policy changes that have significant impacts and long-term results.

Created in 1970, the State Administration of Foreign Exchange (SAFE) is responsible for managing the inflow and outflow of state foreign exchange reserves, drafting rules and regulations concerning the foreign exchange administration system, and reporting the balance of payment data to the State Council.

The People's Bank of China (PBC), established in 1983 as China's central bank, exerts significant influence over OFDI through monetary and foreign exchange policy regulation, as well as through partial supervisory authority over SAFE.

Established in its current form in 2003, MOFCOM (previously MOFTEC) is responsible for administering China's foreign trade, economic cooperation, and foreign investment. It plays a major role in the regulation of OFDI including: drafting specific OFDI policies and regulations; ratifying large OFDI projects in non-financial sectors; conducting bilateral and multilateral negotiations on investment and trade treaties, representing China at the WTO and other international economic organizations; ensuring the alignment of China's economic and trade laws with international treaties and agreements; coordinating China's foreign aid policy, and relevant funding and loan schemes. In addition, MOFCOM exerts authority over various other departments and agencies that have regulatory power to influence OFDI, including: Policy Research Department (PRD), Department of International Trade and Economic Affairs (DITEA), and the Department of Foreign Economic Cooperation (DFEC).

The National Development and Reform Commission (NDRC) is a macroeconomic policy planning agency, which sets China's overall economic and industrial policies as well as reform plans for the State Council. Over the years it has regulated OFDI and retained approval authority over large-scale OFDI project in specific industries, including natural resources and infrastructure development.

Finally, the State-owned Assets Supervision and Administration Commission (SASAC) was established by the State Council in 2003 as the primary government institution to manage the nation's state-owned assets in non-financial sectors. It is responsible for managing China's state-owned enterprises, including high-level management appointments and approval over any merger or sale of stock or assets, as well as drafting laws related to state-owned enterprises (Luo, Xue, and Han 2010).

Under the coordination of the State Council, all of these institutions exert varying influence, directly and indirectly, over the flow of OFDI. In Table 1, Soares (2012) provides a comprehensive view of institutional responsibilities for the approval of individual projects according to the nature of ownership structures, investment destinations, motivations, and the project value.

Table 1: Approval Responsibility for Chinese OFDI

Ownership of the Company	Features of Investment Project			Responsible for Approval			
	Target countries	Investment Objective	Value of Project	State Council	NDRC	MOFCOM	SASAC
Companies under supervision of the central government	Countries considered critical by the government (Japan, USA, Iraq...)	Search for natural resources	> US\$ 200 million	x		x	x
			30 < X < US\$ 200 million		x	x	x
			< US\$ 30 million			x	x
		Not search for natural resources	>US\$ 50 million	x		x	x
			10 < X < 50 million		x	x	x
			< US\$ 10 million			x	x
	Countries without diplomatic ties to China	Search for natural resources	> US\$ 200 million	x	x	x	x
			30 < X < US\$ 200 million	x	x	x	x
			< US\$ 30 million	x	x	x	x
		Not search for natural resources	>US\$ 50 million	x	x	x	x
			10 < X < 50 million	x	x	x	x
			< US\$ 10 million	x	x	x	x
	Any other country destination	Search for natural resources	> US\$ 200 million	x		x	x
			30 < X < US\$ 200 million		x	x	x
			< US\$ 30 million			x	x
		Not search for natural resources	>US\$ 50 million	x		x	x
			10 < X < 50 million		x	x	x
			< US\$ 10 million			x	x
Any other type of ownership	Countries considered critical by the government (Japan, USA, Iraq...)	Search for natural resources	> US\$ 200 million	x		x	
			30 < X < US\$ 200 million		x	x	
			< US\$ 30 million			x	
		Not search for natural resources	>US\$ 50 million	x		x	
			10 < X < 50 million		x	x	
			< US\$ 10 million			x	
	Countries without diplomatic ties to China	Search for natural resources	> US\$ 200 million	x	x	x	
			30 < X < US\$ 200 million	x	x	x	
			< US\$ 30 million	x	x	x	
		Not search for natural resources	>US\$ 50 million	x	x	x	
			10 < X < 50 million	x	x	x	
			< US\$ 10 million	x	x	x	
	Any other country destination	Search for natural resources	> US\$ 200 million	x		x	
			30 < X < US\$ 200 million		x	x	
			< US\$ 30 million			x	
		Not search for natural resources	>US\$ 50 million	x		x	
			10 < X < 50 million		x	x	
			< US\$ 10 million			x	

Source: Soares (2012), p. 46

## Chinese Companies and the Expansion of OFDI

As the Chinese government continues to facilitate outward investment, the number of Chinese firms undertaking OFDI worldwide has surged. This upward trend is reflected in Fortune Magazine's "Global 500," an annual ranking of the

world's largest companies. In 2005, the list included 16 Chinese companies, with Sinopec in 31st place; however, by 2012, this number has increased six-fold to 73 companies, second only to the U.S. with 132 companies.

With an excess of accumulated capital and increased know-how, Chinese companies have the capacity to invest abroad through mergers, acquisitions, and greenfield projects. What are the primary drivers of this outward investment? Dunning (1977, 1993) identifies four primary motivations for OFDI, namely market seeking, natural resource seeking, efficiency seeking, and strategic-asset seeking. Over the past two decades, all of these motivations have lured Chinese companies to invest abroad and expand their businesses to overseas markets.

Due to China's limited domestic supply of natural resources, particularly minerals, petroleum, timber, and fisheries, resource-seeking investment has been one of the key strategic drivers for Chinese outward FDI (Kang and Jiang 2012). Beginning in the late 90s, Chinese state-owned enterprises invested overseas to acquire and secure a stable supply of raw materials. By the mid-2000s, China's fast economic growth, massive urban infrastructure projects, and expansion of heavy industry fueled demand for energy and other key commodities including iron ore, copper, and other metals. To support this massive demand, Chinese firms looked to suppliers in developing countries, including some with unstable political environments such as Sudan, in addition to resource-rich OECD economies, like Australia and Canada. This push for natural resource investments boosted Chinese outward FDI from less than US\$ 2 billion in 2004 to more than US\$ 20 billion in 2006, and over US\$ 50 billion in 2008 (Hanemann and Rosen 2012). Today, Chinese investments have spread to resource-rich developing markets across Africa, the Middle East, and Latin America.

While the country's internal demand for energy and raw materials remains a driving force behind large-scale Chinese investments, other motivations including the search for new markets, technology, brands, and managerial know-how, also motivate Chinese companies to invest abroad. A combination of capital resources, newly-acquired management and production capabilities, and government's supportive policies, created the opportunity for state-owned enterprises, as well as private firms across all sectors of the Chinese economy to invest abroad with the view of becoming global leaders in international markets.

Some authors, such as Child and Rodrigues (2005), argue that the mainstream internationalization theory – firms internationalize to exploit their existing competitive advantages – does not apply to Chinese companies, who instead look abroad to make up for certain internal and external disadvantages and to gain competitive strengths. After years of economic isolation, Chinese companies face “latecomer disadvantages” when compared to other major multinationals. As a result, many Chinese companies focus on acquiring strategic assets, such as technology, R&D skills, and foreign branding, which strengthen

their overall production capabilities and provide a competitive edge in domestic and international markets.

As China enters a new stage of economic development, the current investment-led, export-oriented development strategy will become unsustainable. To ensure long-term growth and stability, Chinese leaders have already taken steps to rebalance the economy to favor domestic consumption, higher value-added manufacturing, and greater service industry activity (Hanemann and Rosen 2012). Consumption-led growth will increase the pressure on firms across all sectors to internationalize as they compete with each other and foreign multinational enterprises (MNE) for Chinese consumers. In addition, there will be an overall shift in China's current OFDI profile. Rising domestic costs in China will continue to motivate Chinese companies to offshore their factories to lower-cost locations, a trend that can already be observed in Southeast Asia. At the same time, as China shifts to higher value-added manufacturing there will most likely be an increase in OFDI to OECD countries, as companies seek to develop advanced capabilities in technology, design, branding, and human resource networks (Hanemann and Rosen 2009). Lastly, as China refocuses its economy towards the service sector, we will most likely see a new wave of Chinese service sector companies investing and expanding their operations abroad.

## Global Distribution of Chinese Investments

Over the past decade, Chinese companies have established a significant foothold in many host countries. Nevertheless, it is important to point out that the motivations, characteristics, and players have changed over time and vary widely across and within the regions themselves. Below is a brief description of Chinese regional investment activity.

East and Southeast Asia have been historically large recipients of Chinese FDI, given the geographical proximity and socio-cultural affinity. Since the late 1990s, Chinese companies have been investing in Hong Kong and other East Asian countries, such as South Korea, Japan, and Singapore to facilitate trade and to obtain technological and production know-how (Hanemann and Rosen 2012). The geographic distribution of Chinese OFDI in Southeast Asia is defined by individual country advantages (Kubny and Voss 2010). Resource-rich countries such as Cambodia, Indonesia, and Laos have attracted significant Chinese investment in the primary sector (Pangestu 2004). The majority of Chinese investment in Singapore is directed to the service sector due to the country's well-developed financial service, trade, shipping and logistics sectors (Chia and Sussangkarn 2006). Low-wages in Cambodia and Vietnam have attracted Chinese OFDI to labor-intensive manufacturing (Kubny and Voss 2010). As costs



continue to rise in China, it is expected that an increasing number of Chinese companies will relocate their factories to Southeast Asia and other low-cost locations (The Economist 2012; Penh 2013). This phenomenon will most likely lead to the reorganization and further integration of production networks throughout Asia.

Over the past decade China has become one of the primary investors in Africa, with annual inflows in some regions currently exceeding those from historically dominant developed economies (Kaplinsky 2012). According to a report by Kaplinsky and Morris (2009), Chinese central and provincial state-owned enterprises supported by the Chinese government have been investing in resource and infrastructure projects, usually bundled together with Chinese concessional finance, and the provision of goods and engineering services. Energy, mining, and agriculture are the primary focus of investment in many of these countries, while large-scale construction and infrastructure projects are widespread throughout the region. In addition, small and medium-sized Chinese firms are investing in manufacturing and communication sectors, as well as in wholesale trading. A growing number of small and micro private sector investments are directed towards the manufacturing sector and to small-scale retail (Kaplinsky and Morris 2009).

In recent years, Australia has ranked among the top recipients of Chinese OFDI. Over the years, the country's abundance of natural resources and its open investment environment has attracted large sums of Chinese FDI, particularly into the resource sector. From 2005-2010 the Foreign Investment Review Board (FIRB) approved over US\$ 60 billion in Chinese investment, of which approximately 87% was in minerals and other natural resources (Drysdale 2011). Chinese FDI has been an instrumental driver of Australia's economic growth and has contributed to the development of critical sectors such as magnetite iron ore extraction and more recently, the development of renewable energy. Nevertheless, the significant presence of Chinese state-owned enterprises in critical resource sectors has stimulated much popular and policy debate over potential security risks associated with investment from state-owned companies. Negative public and media reaction pressured the FIRB to increase regulation over state-owned investment, a move directed primarily against Chinese companies. Since then, increased and at times ad-hoc regulation has seen the delay and failure of a number of high-profile investment proposals by Chinese companies (Drysdale 2011).

According to the Economic Commission for Latin America and the Caribbean, in 2010 China became the third largest investor in Latin America behind the U.S. and the Netherlands (ECLAC 2010). Following established trade patterns with China, the majority of investment throughout this region is targeted towards Latin America's plentiful extractive industries. Chinese FDI has been concentrated on acquiring nickel assets in Cuba and New Guinea, copper assets in Chile and Peru, and oil assets in Venezuela and Ecuador (Holland and Barbi 2010).

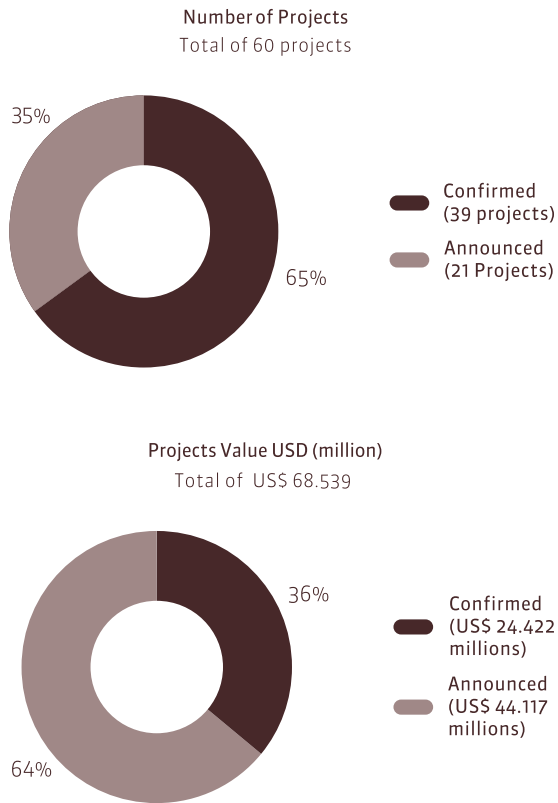
More recently, China's OFDI in developed countries throughout Europe and in the United States has increased significantly. According to a recent Rhodium Group report, annual inflows of Chinese investment in Europe tripled from 2006 to 2009, and tripled again by 2011 to US\$ 10 billion (€ 7.4 billion) for the year. In addition, the number of deals with a value of more than US\$ 1 million doubled from less than 50 to almost 100 in 2010 and 2011 (Hanemann and Rosen 2012). Overall, asset-seeking FDI is a key driver for Chinese investments in Europe, as Chinese firms look to upgrade their capabilities and take advantage of host country technology clusters. The investments can be seen across a wide range of sectors in both manufacturing and services. In France, FDI is concentrated in electronics and telecommunication equipment (Nicolas 2012), while in Germany the majority of investments are aimed at the machinery and electronics sector (Handtke 2009). In the UK, Chinese acquisitions are focused on the automobile industry (Nicolas and Thomsen 2008). In addition, large Chinese companies such as Haier, Lenovo, and Huawei have established R&D centers throughout Europe (Zeng and Williamson, 2007).

Chinese investment in the United States has increased steadily since 2007. According to Hanemann (2012), Chinese FDI in the United States totaled almost US\$ 6 billion in 2010 and US\$ 6.5 billion in 2012. In 2010, the author tracked Chinese investment projects in at least 35 of the country's 50 states and across a wide range of industries; there was significant growth in manufacturing sector investments since 2008, as well as an increasing interest in real estate and infrastructure investments. Despite the upward trend, Chinese investment in the United States continues to face political challenges, as the inflow of Chinese money has generated substantial concern related to foreign ownership--especially ownership of critical infrastructure like defense-related technologies and the threat of political and industrial espionage.

# Characteristics of Chinese Investment Projects in Brazil

For the period of January 2007 - June 2012, CBBC has recorded a total of 60 announced Chinese investment projects for a total of US\$ 68.5 billion. From interviews with Chinese companies and their Brazilian partners, the Council was able to confirm 39 projects, while at the time of this report the remaining 21 projects are still under negotiation or being evaluated by both parties. The total value of confirmed investment amounts to US\$ 24.4 billion over the five year period (Graph 2).

Graph 2 - Number of projects and volume of Chinese investments in Brazil - 2007 to June 2012

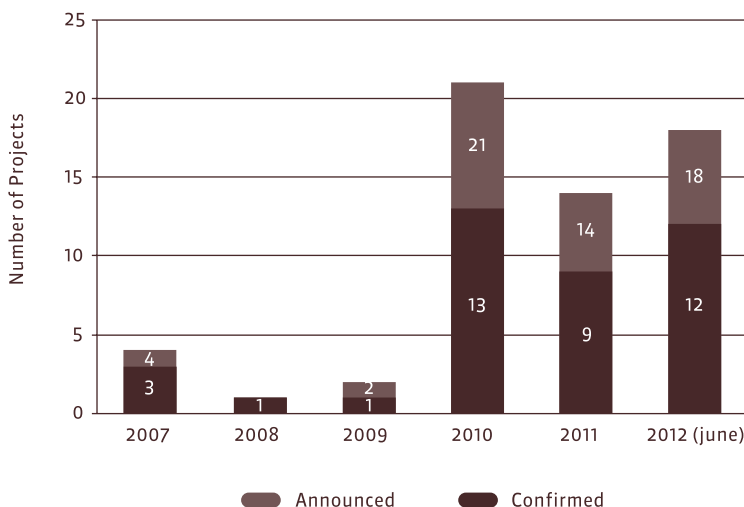


Source: CBBC consolidated list

The percentage of confirmed projects (65% of the total) is much higher than the percentage of confirmed values (36% of the total), due to a handful of large-scale, high-value announced investments that are still under negotiation. One example is the US\$ 10 billion project announced by China Railway Engineer Group and ATI, a holding in Hong Kong, with financial backing from China Development Bank (CDB); the project currently under negotiation with the government of Mato Grosso is for a 1,800 km rail line parallel to the BR-163. Another example is the US\$ 7 billion deal in negotiation since 2010, between the China National Agriculture Development Group Corporation (CNADC) and the Government of Goiás to expand the North-South Railway to improve grain export logistics.

During the two year period from 2007-2009, Chinese investments were fairly limited in quantity and value, composed of only seven announced projects, with a total value under US\$ 600 million (Graphs 3 and 4). The small quantity of projects makes it impossible to determine a significant trend or pattern of Chinese FDI. Overall, investments were sparse and motivated by business strategies adopted by a few companies, including Huawei in the telecommunication sector, Fei Ying Motors (FYM) and Traxx-China South Industry Corporation Group in the automobile sector, and Sateri in agribusiness. As Chinese OFDI spread rapidly across the globe throughout the mid-2000s, Brazil remained relatively untouched, leading CBBC researchers to refer to Brazil as the “last frontier” for Chinese investment (Castro, Soares, and da Silva 2011).

Graph 3 – Investment Projects in Brazil - 2007 to June 2012

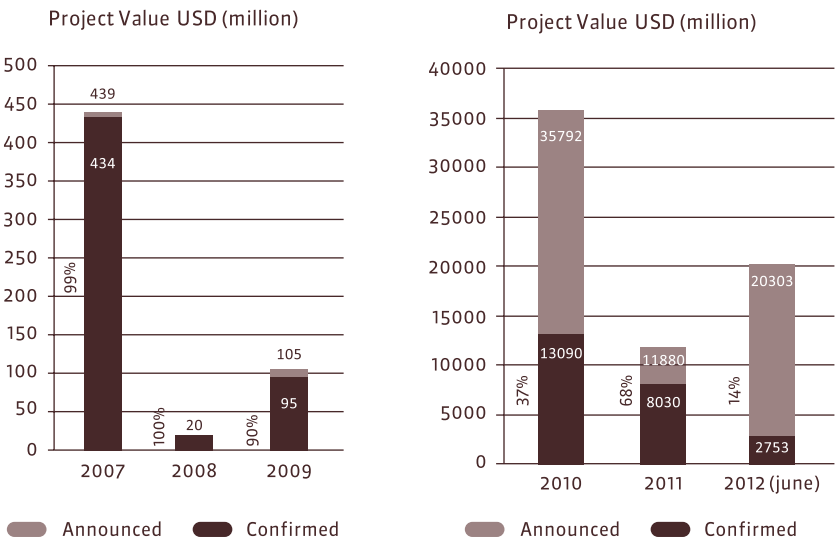


Source: CBBC consolidated list

This picture changed drastically in 2010, with the announcement of 21 Chinese investment projects, three times the accumulated total from 2007-2009 (Graph 3). This level of investment was maintained in 2011 and in the first half of 2012, during which 32 additional projects were announced. The sharp increase in announced OFDI in 2010 and subsequent two years of consecutive high levels signaled a new phase in the economic relationship between Brazil and China. This relationship initially characterized by the quick expansion of trade flows between the two countries, gained a new and important dimension in 2010 – significant and sustained flows of Chinese investment into Brazil.

In value terms, the picture is quite similar throughout the 5 year time period (Graph 4). In 2010, the total value of investment estimated by the CBBC was US\$ 13.09 billion, 20 times the accumulated value from 2007-2009. It is clear from this data that after 2009, China’s investment profile in Brazil was no longer comprised of a few small-scale investments but included a significant number of high value projects.

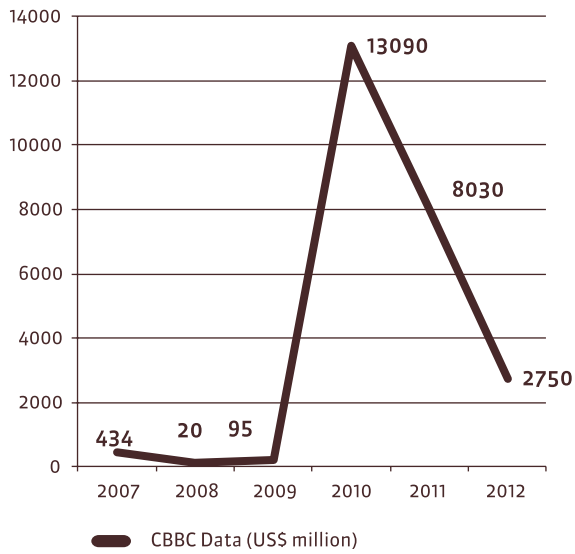
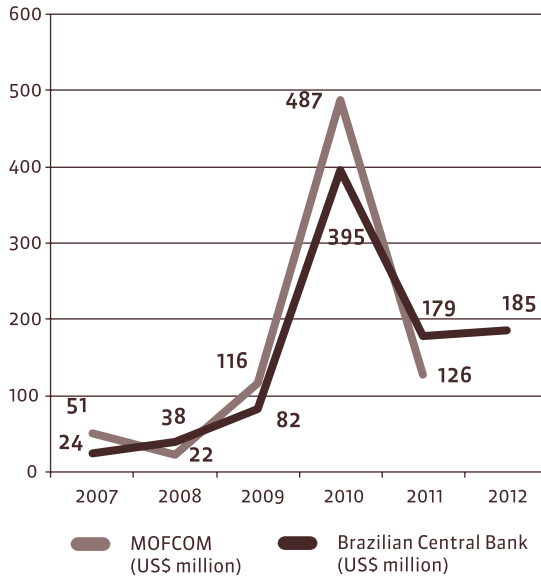
Graph 4 - Volume of Chinese Investment in Brazil - 2007 to June 2012



Source: CBBC consolidated list

It is interesting to highlight the differences in accumulated project value when looking at different sources. Overall, CBBC figures are significantly higher than official data from MOFCOM and the Brazilian Central Bank (Graph 5).

Graph 5 - Chinese FDI in Brazil



Source: CBBC consolidated list, Brazilian Central Bank, MOFCOM

Looking at global Chinese OFDI patterns over the past decade, the amount of Chinese investment in Brazil is not surprising. As discussed in the previous chapter, since the mid-2000s, there has been an upward trend of Chinese investments around the world. Encouraged by the Chinese government's "Go Global" policies, rising demand for commodities, competitive pressures at home and abroad, Chinese companies began investing abroad in a variety of host countries. Nevertheless, throughout the 2000s only a few Chinese companies viewed Brazil as a favorable investment destination. This picture changed dramatically in 2010 with the massive influx of Chinese capital into the country; however, the late timing raises the question as to why 2010 was a critical year for Chinese investments in Brazil. There were no specific policy measures undertaken by either government to direct or attract Chinese FDI to Brazil, leaving us with no determinant reason to justify the investment spike in 2010. Nevertheless, there are various contributory factors to explain this recent trend.

As previously mentioned, the volume of China-Brazil trade has increased significantly in recent years. Between 2002-2009 bilateral trade grew by an average of 40% per year from US\$ 4 billion to US\$ 36 billion. In 2009, China became Brazil's number one trading partner, comprising 13.2% of Brazil's total trade flows, surpassing the United States at 12.5%. In 2012, China became the number one source for Brazilian imports. In addition, Brazil is gaining ground among China's largest trading partners, moving from 15th in 2009 to 10th in 2011. A strong trading relationship between the two countries is an important leading indicator of future foreign direct investment. Given the intensification of Sino-Brazilian trade flows in the last decade, the subsequent increase in foreign direct investment was to be expected.

The surge in Chinese investment in Brazil can also be attributed to the after-effects of the global financial crisis. Originating in the United States, the crisis hit developed countries hardest, causing a significant decline in consumption capacity throughout the United States and Europe. As a result, many Chinese investors began targeting large, emerging consumer markets in developing economies, including Brazil. In addition, diminishing corporate profits and plummeting stock prices created the opportunity for Chinese firms to acquire strategic-assets from mature but financially distressed MNEs, often with operations in emerging markets like Brazil.

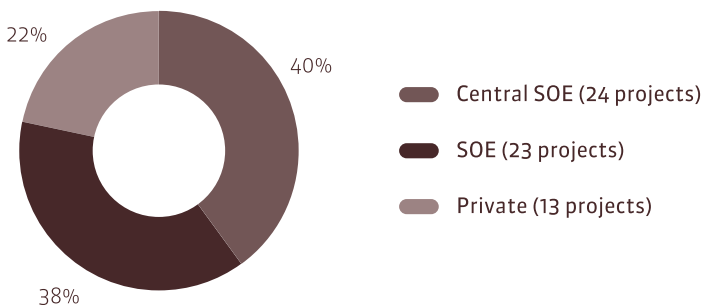
In addition, changes in Brazil's domestic economy have made the country an increasingly attractive destination for foreign investment. Moderate economic growth and successful social programs have lifted an estimated 30 million people out of poverty and into the new and expanding middle class, with greater purchasing power and easier access to credit. In addition, the discovery of Brazil's pre-salt reserves, as well as public policies to attract private sector investment in infrastructure by enlarging the number of concessions, have created new markets and attracted foreign investors.

Lastly, China continues to import large quantities of key commodities to maintain high growth rates. Lacking sufficient domestic reserves and facing extremely volatile commodity prices, Chinese firms have been investing in resource-rich countries like Brazil, in order to secure stable, long-term supplies. Furthermore, in the coming decade, China is expected to lose self-sufficiency in the provision of certain foodstuffs, including soybeans. In order to ensure long-term food security, Chinese companies will face increasing pressure to invest abroad in order to meet domestic demand.

## Ownership Structure

Over the past five years, 44 Chinese firms have announced 60 investment projects in Brazil. The ownership of these companies vary and can be characterized into three main groups: Central State-Owned Enterprises (Central SOEs), State-Owned Enterprises (SOEs), and private companies. Today, there are 117 large corporations defined as Central State Owned Enterprises (Central SOEs), operating primarily in strategic sectors of the Chinese economy. These state champions are under the direct control of the central government through the State-Owned Assets Supervision and Administration Commission (SASAC), a special agency under the State Council responsible for managing China's State-Owned Enterprises. State Owned Enterprises (SOEs), for the purposes of this report, are defined as firms that are wholly or partially owned by the state, at central, provincial, or local levels of government. Lastly, we define private companies to be those with no state ownership within their property structure.

Graph 6 – Chinese Investment Projects by Ownership (number of projects) - 2007 to June 2012



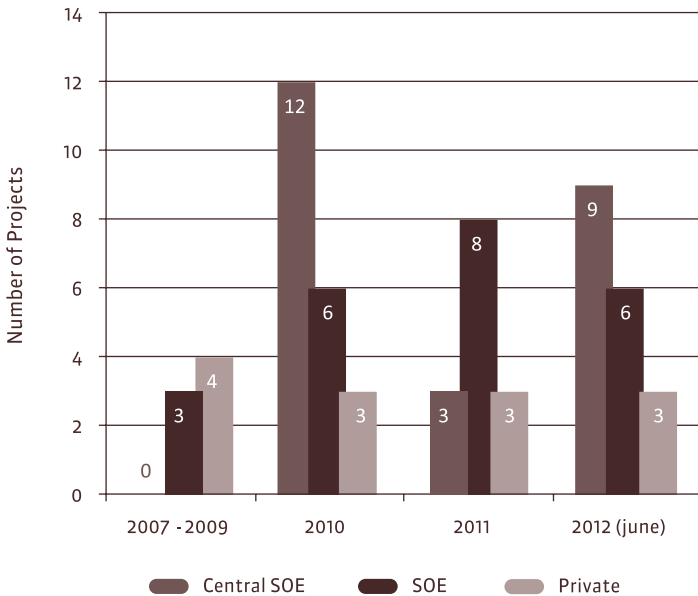
Source: CBBC consolidated list



The break-up in ownership of Chinese companies investing in Brazil is relatively balanced between the three groups by number of announced projects (Graph 6). However, overall, the 13 private company projects are far less important when compared to the 47 projects that are partially or completely state-funded.

It was only in 2010 that Chinese Central SOEs entered Brazil (Graph 7), with investments concentrated in oil and gas, electric power, and mining sectors (together making up 68% of the total). Within the group of 117 designated Central SOEs, the government selected 23 enterprises that it classifies as the “backbone” of the Chinese economy – operating in strategically important sectors, with significant financial support and protection from the Chinese government. Out of these 23 firms, 7 have announced investments in Brazil, including Sinopec and State Grid, who announced a combined total of US\$ 14.5 billion. The presence of these state champions raises the question as to whether or not there exists a strategic agenda on the part of the Chinese government regarding its economic relationship with Brazil. While it is not possible to come to a conclusion based solely on investment patterns, it is clear that China has established a significant long-term investment presence in Brazil that is not likely to be reversed.

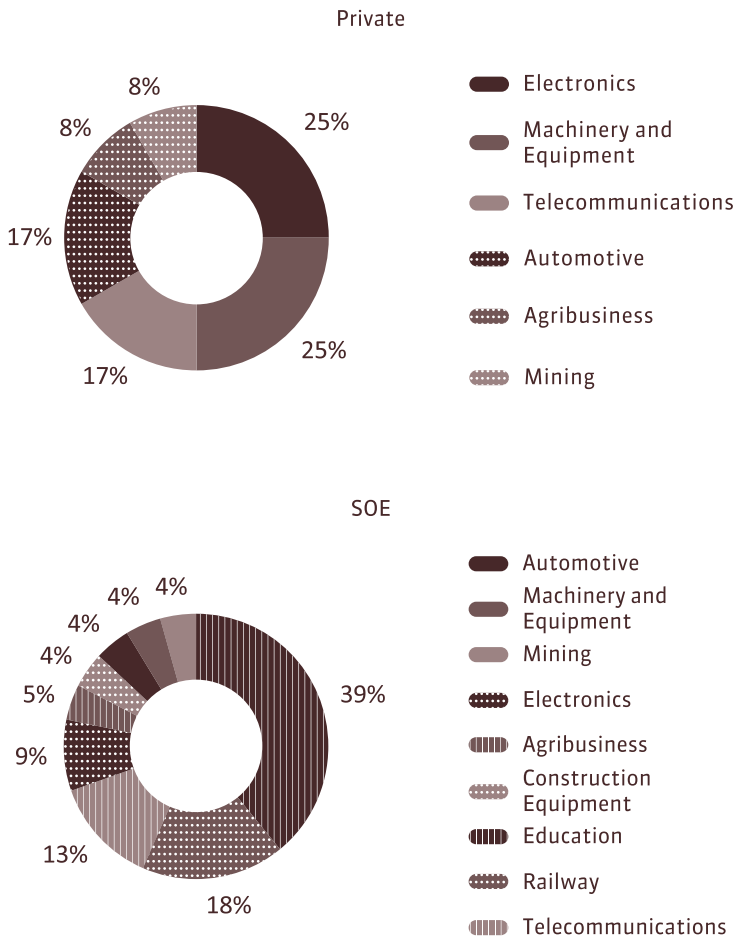
Graph 7 – Evolution of projects by ownership structure (number of projects)



Source: CBBC consolidated list

On the other hand, investment projects undertaken by SOEs, hybrid capital SOEs, and/or private firms are more diversified. SOEs and hybrid capital enterprises direct their investments towards the automobile sector and the production of machinery and equipment (57% of the total). Meanwhile, privately-owned firms are primarily focused on sectors such as electro-electronics, telecommunications, and equipment production (50% of the total).

Graph 8 – Sectoral distribution of Chinese investment project by ownership (number of projects) - 2007 to June 2012



Source: CBBC consolidated list

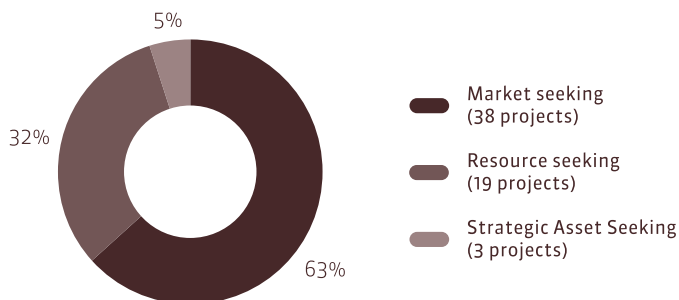
## Investment Motivations

According to Dunning (1977, 1993), there are four primary motivations for OFDI, namely natural resource seeking, market seeking, efficiency seeking, and strategic-asset seeking. Resource seeking investments are aimed at gaining access to particular resources in the host country at lower costs than in the home country, including extraction operations, and the processing and commercialization of resources. Market seeking investment is to sustain existing markets and exploit new markets in the host country or other nearby markets. Efficiency seeking investment projects are aimed at lowering costs or accessing better logistical infrastructure found in the host country so as to increase the firm's overall competitiveness. Lastly, strategic-asset seeking investment is to promote long-term strategic goals through gaining access to assets that will increase the firm's capabilities and strengthen its global competitive position.

The majority of Chinese investment projects in Brazil are market-seeking in nature. As previously mentioned, Brazil's growing class of consumers have attracted investors from around the world. In addition, according to high-level executives from Chinese companies in Brazil interviewed by authors of this report, investing in the country provides access not only to the Brazilian market but also neighboring markets in Latin America. Companies including Chery and JAC from the automotive sector, Sany and XCMA from the machinery and equipment sector, and Foxconn and Lenovo from the electro-electronic sector, are driven not only by the desire to take advantage of Brazil's growing consumer base and market dynamism, but also to establish an export platform for supplying manufactured goods to the rest of Latin America.

In addition, companies wary of the high logistical and transportation costs between China and Latin America are incentivized to invest in a production base closer to the host markets. In comparison to neighboring countries, Brazil's well-developed industrial sector makes it the most attractive base for Chinese investors targeting Latin America as a whole.

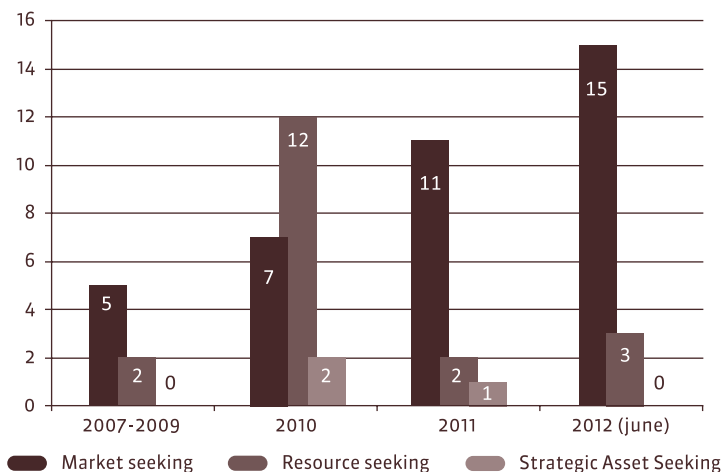
Graph 9 – Chinese investment projects by motivation (number of projects) - 2007 to June 2012



Source: CBBC consolidated list

China’s growing presence in Brazil has stimulated much public debate, heightened at times by a media narrative that criticizes Chinese FDI for being primarily resource seeking at the expense of manufacturing and other activities. While resource seeking investments made up the majority of announced Chinese investment projects (57% of the total amount) in 2010, overall, this is clearly not the case. In the years prior to and post-2010, market seeking projects have dominated China’s investment portfolio in Brazil (Graph 10).

Graph 10 – Evolution of investment projects by motivation (number of projects)



Source: CBBC consolidated list

The shift in investment motivation raises the question as to the reason behind the post-2010 reduction in natural resource seeking investments. While the overall pace of Chinese investments in Brazil maintained itself in 2011 and 2012, resource seeking investments have plummeted. Certainly China did not achieve self-sufficiency in the production of commodities that it was aiming to secure in Brazil. Through interviews with Chinese executive working in the mining, oil and gas, and agribusiness sectors, it became clear that this drop can be attributed to uncertainties regarding Brazilian policies. Substantial concerns were raised regarding recent government regulation in these sectors, such as a 2011 mining legislation proposal that requires local processing to enhance the production of higher-value added products or a recent government interpretation of land-purchasing legislation limiting the amount of land foreigners can buy. These and other related policies are increasing Chinese investors' uncertainty and causing companies to hold off investment plans.

Over the past five years, Chinese strategic-asset seeking projects in Brazil were few and confined to the telecommunication sector. Telecommunication giants, Huawei and ZTE, have announced proposals to establish research and development centers in Brazil. Nevertheless, some critics argue that these centers will only adapt already developed technology, instead of investing in cutting-edge innovation.

Lastly, CBBC was not able to identify efficiency-seeking investments from Chinese companies investing in Brazil over the past 5 years. This can be explained by high unit labor costs and the so-called "custo Brasil" – a term used to describe costs associated with poor infrastructure, strict labor laws, a high tax burden, and a complex tax system that continues to deter efficiency seeking investment from foreign investors.

## Entry Mode

A firm's entry mode into a foreign market is another important characteristic defining the patterns of outward FDI. Currently, three main entry modes characterize Chinese investments in Brazil: mergers and acquisitions (M&A), joint-venture (JVs), and greenfield Investments.<sup>1</sup> From 2007- June 2012, the majority of announced Chinese investments entered Brazil through greenfield projects (57%

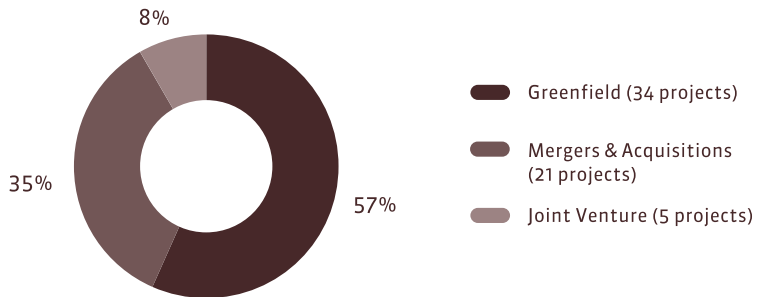
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1- According to the Organization for Economic Co-operation and Development (OECD), Mergers and Acquisitions (M&A) are defined by the purchase/sale of existing shares by the direct investor /direct investment enterprise, with an ownership of 10% or more of the voting power of an enterprise (the necessary condition to establish a direct investment relationship). A joint venture is a contractual agreement between two or more parties for the purpose of executing a business undertaking in which the parties agree to share profits and losses of the enterprise as well as the capital formation and contribution of operating inputs or costs. A Greenfield investment project is an investment in which new enterprises are established by the direct investor, such as a factory, dealership or representative desk (OECD 2009).

of the total - Graph 11). These announcements created expectations in Brazil for the potential benefits that come alongside greenfield projects, such as the expansion of the domestic industry capacity and the generation of new jobs.

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Graph 11 – Chinese Investment projects by entry mode (number of projects)  
- 2007 to June 2012

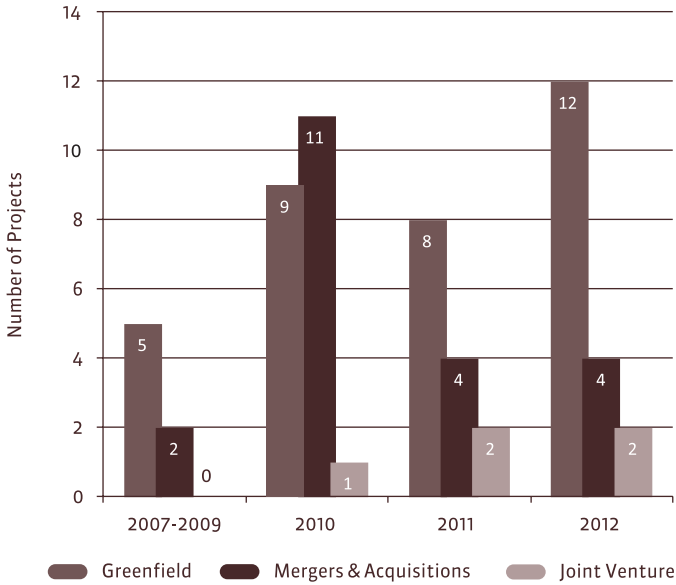


Source: CBBC consolidated list

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While greenfield investments were the dominant mode of entry for Chinese companies overall, in 2010 the majority of companies entered the country through M&As (Graph 12).

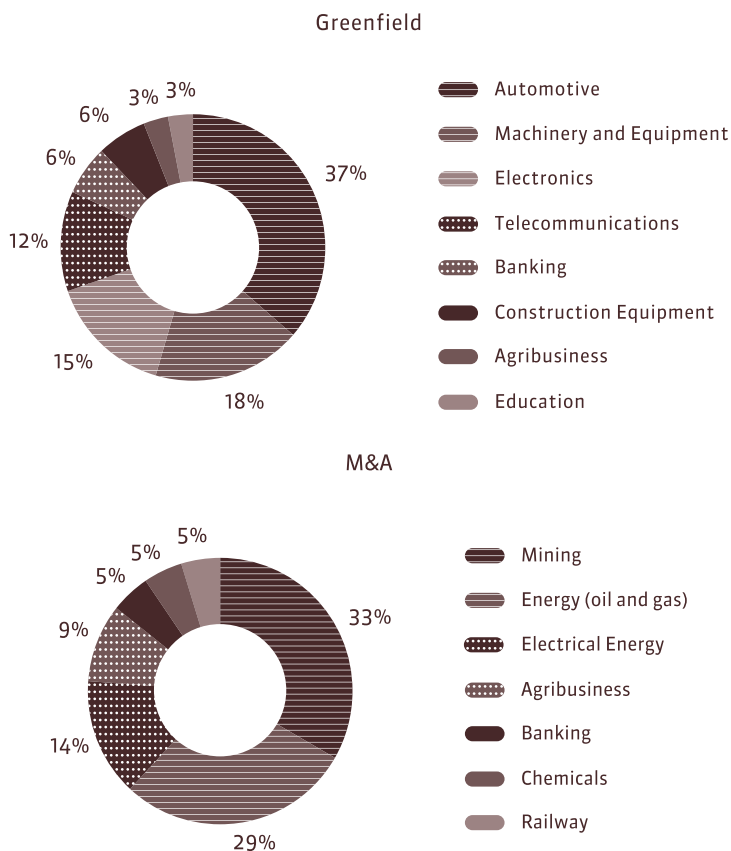
Graph 12 – Evolution of Investment projects by entry mode (number of projects)



Source: CBBC consolidated list

M&As were the dominant entry mode for Chinese companies investing in mining, oil and gas, and electrical energy sectors, while investors in the automobile and machinery and equipment sectors entered through greenfield investment (Graph 13).

Graph 13 – Sectoral distribution of Chinese investment projects by entry mode (number of projects) - 2007 to June 2012



Source: CBBC consolidated list

The global financial crisis created new opportunities for Chinese companies to acquire significant stakes in large financially distressed European natural resource companies with operations or assets in Brazil. For example, Sinopec’s acquisitions of Repsol Brasil and Galp Brasil are valued at US\$ 7.1 billion and US\$ 4.8 billion respectively, and State Grid’s acquisition of 14 power transmission projects owned by Spanish firms total to US\$ 2 billion. M&As offer a fast route for Chinese companies looking to enter the Brazilian market. Inherent difficulties associated with enter-

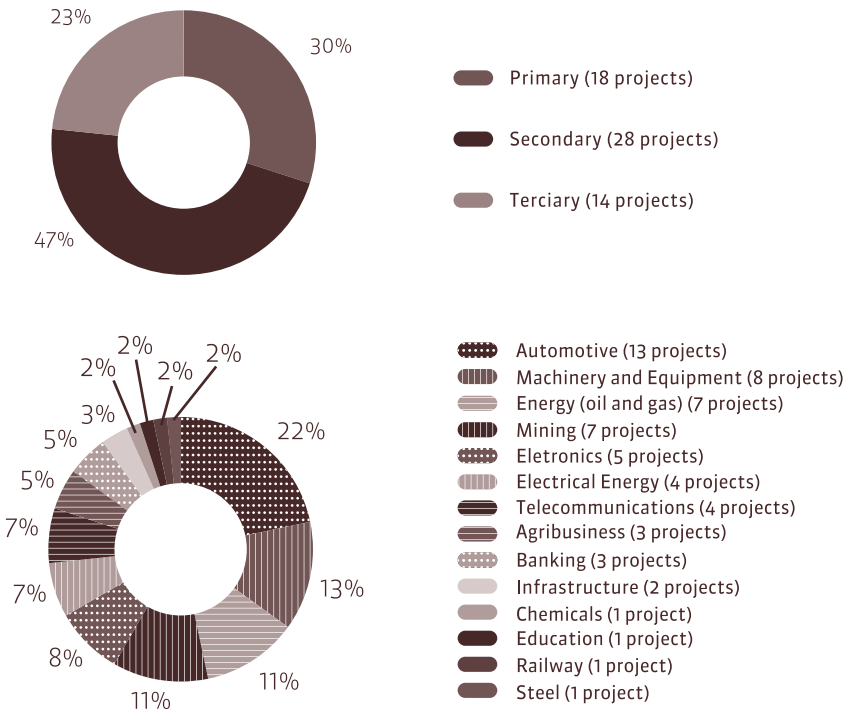


ing a foreign market, such as adapting to cultural divides, new regulatory and legal standards, as well as different networking and management techniques are mitigated by acquiring an established host country firm.

## Sectoral Distribution

Chinese investments are spread across a wide range of sectors in manufacturing, natural resources, and services (Graph 14). The automobile (13 projects), machinery and equipment (8 projects), and electro-electronics (5 projects) sectors combined make up 43% of the total announced projects, followed by energy and gas (7 projects), telecommunications (4 projects), and banking (3 projects).

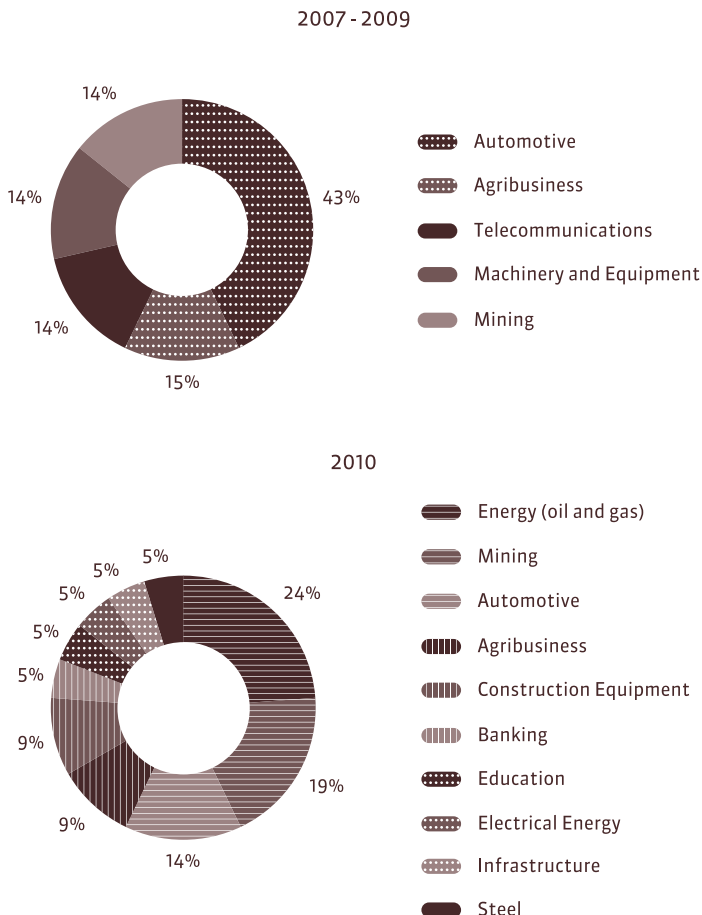
Graph 14 – Chinese investment projects by sector (number of projects) - 2007 to June 2012



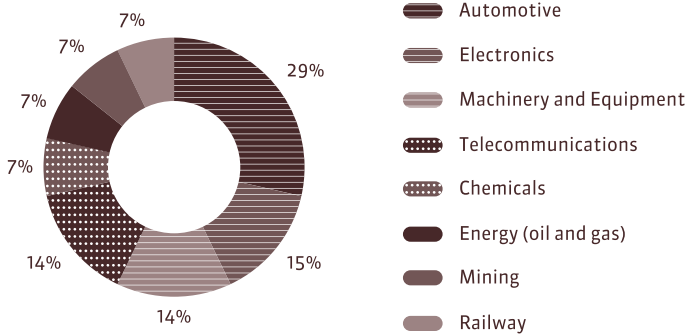
Source: CBBC consolidated list

The sectoral distribution of OFDI highlights two major characteristics of Chinese FDI in Brazil that are central to the ongoing public debate on this topic. The first is the predominance of investment projects that aim to deepen the integration of both economies, primarily through trade expansion and facilitation. These investments are a direct result of China's ongoing demand for Brazilian natural resources. The second and more recent aspect is the predominance of investments that impose new challenges to Brazil's industrial sector. Chinese entrants compete head-on for the domestic market, combining locally produced and imported Chinese manufactured inputs, giving them a potentially low price advantage. The investment dynamics are captured in Graph 15.

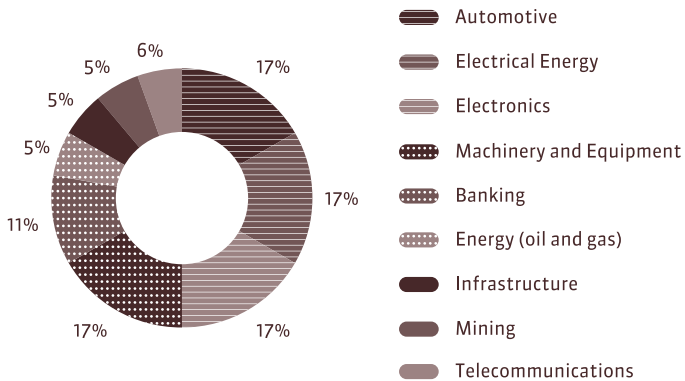
Graph 15 – Evolution of Chinese investment projects by sector (number of projects)



2011



2012 (jan - june)



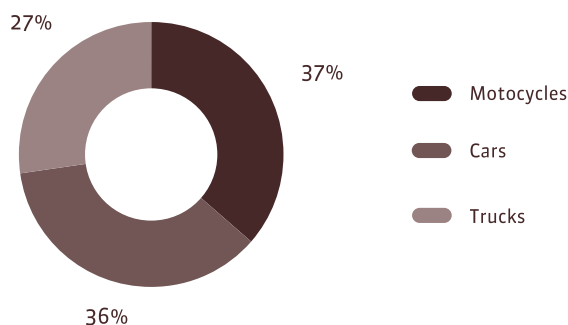
Source: CBBC consolidated list

Investment projects in extractive industry sectors such as oil and gas, mining and agribusiness, aim to expand and facilitate Brazilian exports to China. One example is Chongqing Grain Group's announced US\$ 300 million investment in the production of soy in Northeast Brazil. In addition to trade expansion, some Chinese companies are also investing in major infrastructure development projects to facilitate trade and save on logistical costs. These types of investments are observed in Mato Grosso and Goiás, where a few companies have announced projects aimed at acquiring natural resources, as well as improving the infrastructure and efficiency of Brazil's export corridors. One example is Honbridge Holdings acquisition of the "Salinas Project" from Votorantim Novos Negocios

– a project that includes both mineral exploration and the construction of a 500 kilometer pipeline to the port of Ilhéus in Bahia.

More recently, we have seen increases in Chinese investments in Brazil’s industrial sector. Thus, in response to increased domestic demand, automakers Chery and JAC Motors entered Brazil with greenfield investments of US\$ 400 and US\$ 500 million, respectively. Shiyun Yunlihong Industrial and Trade, a subsidiary of one of the largest Central SOE automakers, Dongfeng Motor Corporation, announced plans to install a truck factory in the south of Brazil. In addition, machinery and equipment firms have shown increasing interest in Brazil. For example, Sany, Xuzhou Machinery Group (XCMG) and Zooliom look to produce machinery for the construction industry, while companies like Baoji Oilfield Machinery (BOMCO) aim to enter the oil and gas sector.

Graph 16 – Chinese companies investing within the automotive sector (number of projects) - 2007 to June 2012



Source: CBBC consolidated list

In terms of the automobile industry, Chinese automakers are entering Brazil to compete in the compact and subcompact segments that have long dominated the domestic market. Nevertheless, Chinese automakers with their low-cost advantages, luxury accessories, and low prices are posing an increasing challenge to MNE competitors already established in Brazil.

Overall, Chinese companies tend to maintain the majority of the production process at home, leaving only the assembly stage for the host country. Often times they will utilize a model known as Completely Knocked-Down Production (CKD) - where all parts and components are imported from the home country and then assembled locally into the final product.

Chinese companies have used this production model in many countries and continue to announce investment plans with low local content. In Brazil, automakers Chery and Lifan initially announced production plans where 30% of the final product would be made up of local parts and components. This strategy would enable Chinese products produced in Brazil to maintain their price advantage in order to challenge the national industry. However, in response to the influx of Chinese automobiles and in order to support its domestic industry, the Brazilian government announced in September of 2011 a measure that increased, by 30 percentage points, the Industrialized Product Tax (IPI) on imported cars with less than 65% local content. In response, JAC Motors temporarily suspended the construction of its factory in Bahia. This measure has also deterred new investments from entering the country. For example Geely, another large Chinese automaker, delayed their investment plans due to the new regulation. This illustrates the necessity for increased dialogue between policy makers and companies in order to ensure that investments bring positive benefits to all parties.

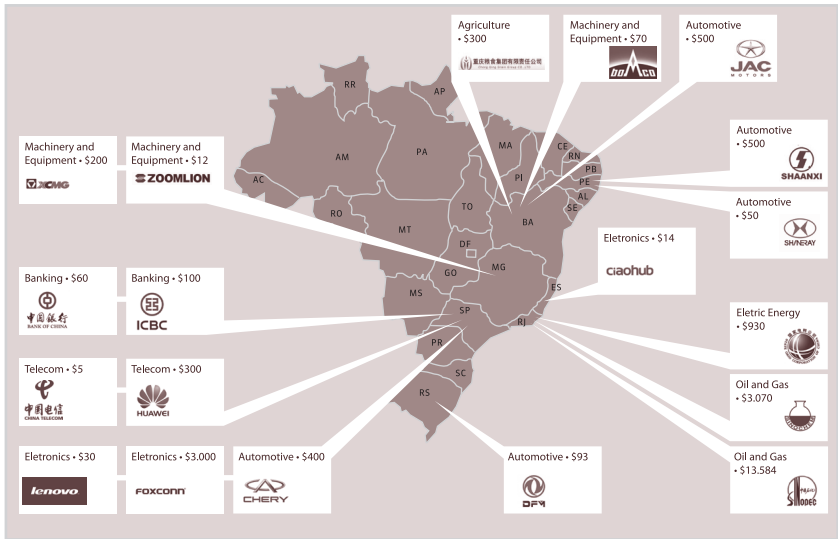
Finally, Chinese investment in the service sector has increased over the past couple years, notably in the banking sector. Three out of the four largest Chinese banks have announced investments in Brazil, including Bank of China for US\$ 60 million, Industrial and Commercial Bank of China (ICBC) for US\$ 100 million, and China Construction Bank, which acquired the operations of the German Bank WestLB for US\$ 300 million. In addition to supporting bilateral trade, the banks help to facilitate the entry of Chinese firms into the Brazilian market.

The expansion of Chinese Banks abroad is part of the government's plan to promote the internationalization of the Chinese currency, the renminbi (RMB). Since 2009, the Chinese government has been actively promoting a variety of initiatives to increase the global usage of the RMB. One of these initiatives is the establishment of a series of bilateral swap lines with other central banks in order to facilitate and expand the use of the RMB in international trade and financial transactions. In June 2012 during the visit of Vice Premier Wen Jiabao to Brazil, the two governments signed a Reals-RMB currency swap agreement worth US\$ 30 billion. As a result of these new initiatives, Brazil can expect the long-term presence of Chinese banks.

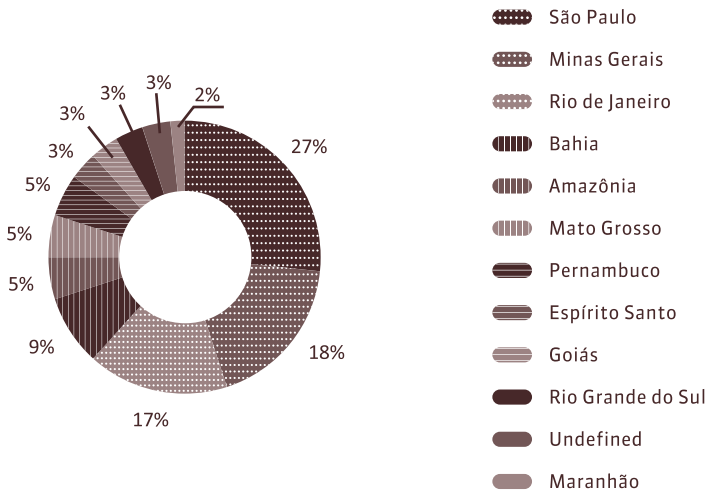
## Geographic Distribution

The majority of Chinese investments are concentrated in Brazil's southeastern region, with the states of São Paulo, Rio de Janeiro, and Minas Gerais making up 62% of the total announced projects. This can be explained by the large number of energy and mining operations located in Rio de Janeiro and Minas Gerais, and the concentration of market-seeking projects in São Paulo.

### Highlights of Chinese Investment Projects in Brazil (US\$ million)



Graph 17 – Geographic distribution of Chinese Investment projects by State (number of projects)



Source: CBBC consolidated list

It is also worth highlighting the efforts of Brazilian officials in northeastern states like Bahia (5 projects), Pernambuco (3 projects), and Maranhão (1 project) to attract Chinese investments over the past few years. Less developed than their southeastern counterparts, these states consider Chinese investors as important sources of capital, infrastructure, and jobs. For example, when Chinese automobile maker, JAC Motors announced plans to invest US\$ 500 million to build a plant in Brazil, the Governor of Bahia led a delegation to visit JAC's headquarters in China to secure the project. As a result, the JAC project is expected to create 3,500 direct jobs and more than 10,000 indirect jobs in Bahia.

Brazil's resource-rich Central Western states will most likely see an increase in Chinese FDI over the coming years, primarily in agribusiness. This, however, depends on resolution of ongoing debate over foreign land-purchasing legislation and the reaction of Chinese companies in these sectors. As previously mentioned, agricultural land acquisition is a controversial topic in Brazil, as well as in other resource-rich countries such as Canada and Australia, particularly when dealing with state-owned companies. As a result, there is a growing consensus among policy makers for the need to establish strong institutions and legislation over foreign land purchasing to maximize benefits without sacrificing security.

## Case Studies

This section includes two in-depth case studies that provide a better understanding of the individual trajectories, long-term strategies and capabilities of two Chinese firms established in Brazil. As the majority of Chinese companies are motivated by market seeking or natural resource seeking strategies, CBBC selected one representative from each category: Huawei and Sinopec. Each case includes a company profile, historical overview and internationalization trajectory, as well as a description of its investment motivations, current activities and future perspectives in Brazil.

### Sinopec Case Study

#### **Company Profile**

China Petroleum & Chemical Company (Sinopec Corp.), a state-owned enterprise under the control of China Petrochemical Corporation (Sinopec Group), is one of the largest integrated energy and chemical companies with upstream, midstream, and downstream operations in China and around the world. Established in July 1998, Sinopec Group has assets of RMB 1,745 trillion (US\$ 290 billion), over 1 million employees and was ranked 5th in revenue by Fortune Global 500 in 2012. By the end of 2010, Sinopec Corp. had a total of 86.7 billion shares, out of which 75.84% were held by Sinopec Group, 19.35% overseas and 4.81% domestically.

Sinopec Corp. is the operating arm of Sinopec Group. Its principal activities include: the exploration, production, transportation, and sale of petroleum and natural gas; the sale, storage, and transportation of petroleum products, synthetic fibre, fertilizer, and other chemical products; import and export of oil, natural gas, petroleum products, petrochemical and chemical products, and other commodities; and research, development, and application of technologies (SINOPEC, 2012).



## **Growth Trajectory within China's Oil and Gas Sector**

Over the years, Sinopec's growth has been intrinsically linked to changes and reforms in China's energy sector. It is therefore necessary to contextualize the company's trajectory within the development of the domestic oil and gas sector.

Before and right after the founding of the People's Republic of China in 1949, China's energy policy was based on self-reliance and self-sufficiency. At the time, the country strove to utilize its capital, human, and technological resources to respond to internal demand. As a result, foreign companies were strictly controlled by the government.

Fushun oilfield, located in the province of Liaoning in the northeast, is regarded as China's first modern oilfield and known today as a symbol of China's pioneering efforts in the sector. Nevertheless, Fushun was initially developed and controlled by the Japanese during WWII until 1945. The memory of past Japanese occupation and control over this critical resource made self-sufficiency and development of the oil industry a priority for the Chinese government. With the establishment of the PRC in 1949, the National Resources Commission (NRC) was created to develop and manage the country's oil fields (Zhang 2011). The development of the sector became an important part of the nationalist agenda of the communist state and was used as a symbol of national sovereignty.

In 1953, the Chinese government with the support of the Soviet Union, developed China's first significant postwar oil field, Yumen, located in Gansu province. The Yumen field became a national model and served to develop Chinese technical capabilities (training of personnel, machinery, and equipment) for additional domestic exploration and development initiatives, such as the Daqing field, in Northeastern China.

Figure 1 - Example of oil fields in China

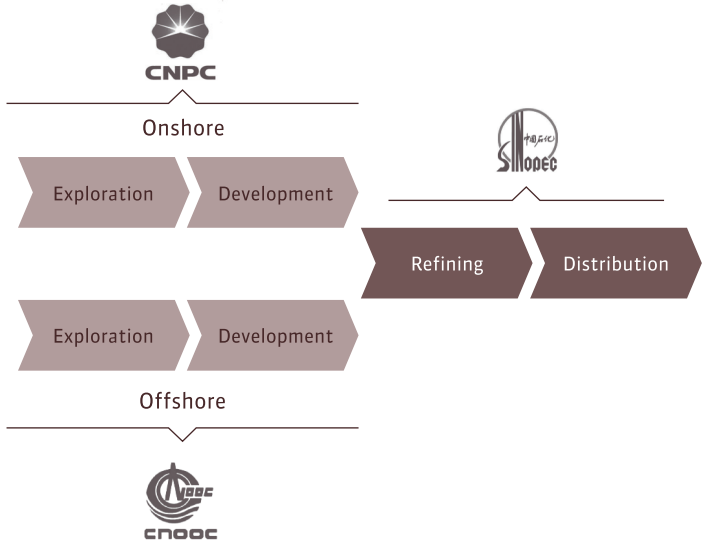


Preparation: CBBC

From 1960 to 1980, China's central government established additional governing institutions and regulatory bodies within the oil industry. Government departments including central agencies and ministries, such as the Department of Petroleum Industry and the Department of Chemical Industry and Petroleum, carried out activities for the exploration, development, refining, and distribution of petroleum in China (Guo 2007).

After China's "open up and reform" policies of 1978, the government divided the functions of the Department of Industry and Petroleum and the Department of Chemical Industry and Petroleum into three separate state-owned companies. China National Offshore Oil Corporation (CNOOC) was created to explore offshore fields located in the Bohai Sea, East China Sea, and South China Sea. China National Petroleum Corporation (CNPC) would explore onshore oil fields, and the China Petroleum and Chemical Corporation (Sinopec) would focus on downstream activities such as refining and distribution. In addition, the National Energy Commission, under the control of the National Development Reform Commission, was created to formulate regulatory policies over the energy sector (Guo 2007).

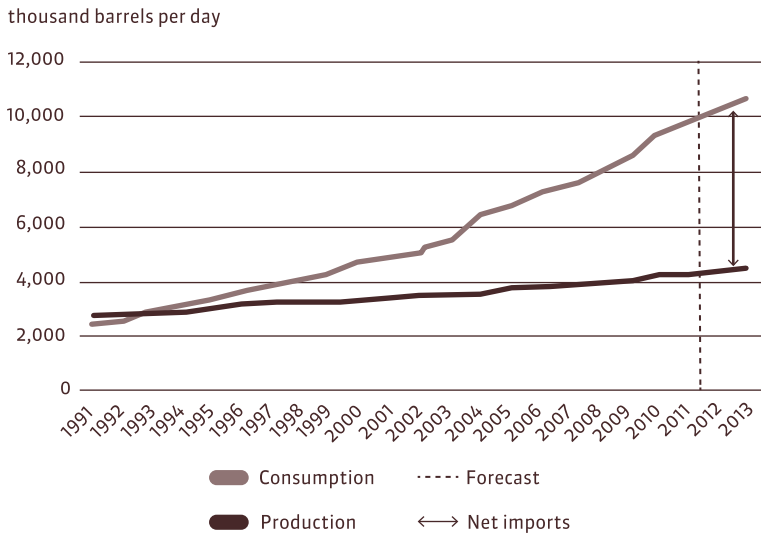
Figure 2 - Representation of the petroleum value chain in China in 1980



Preparation: CBBC

In the 1980s China's domestic demand for oil progressively accelerated; by 1993 for the first time, consumption of oil surpassed domestic production, making China a net importer of the commodity (Graph 18). At the time, the country had two options: increase domestic production and/or search for new markets to import the additional oil required to meet domestic demand.

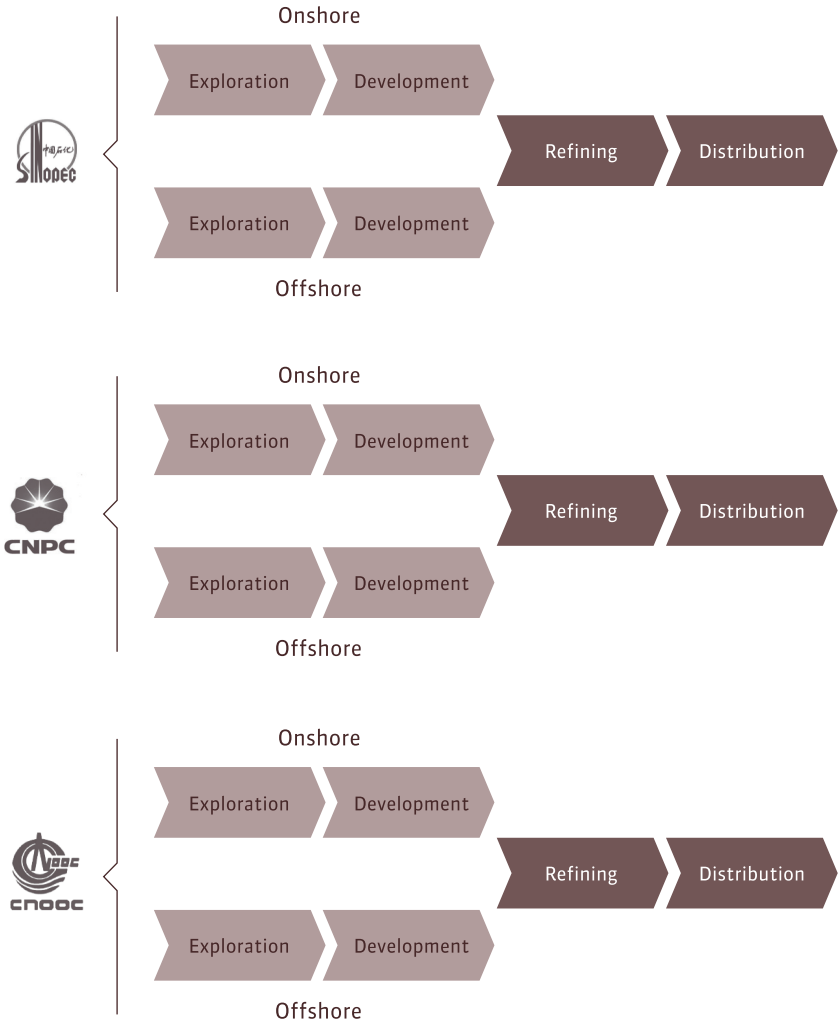
Graph 18 - Production and Consumption of Petroleum of China, 1990-2013



Source: U.S. Energy Information Administration Short-Term Energy Outlook (August 2012)

In 1998, in order to increase the production of oil and improve the efficiency of the sector, the central government began to restructure the functions and activities of major state-owned oil companies, allowing them to vertically integrate and perform activities that ranged from exploration to the commercialization stage of production (Figure 3). Another initiative was to open China’s oil market to foreign companies, with the expectations that they would bring new technology and management practices, as well as increase competition in the sector.

Figure 3 - Representation of the value chain of Oil in China from 1998



Preparation: EIA

As a result, Sinopec received some onshore exploration assets from CNPC and offshore assets from CNOOC. It divided its business activities into lucrative and non-lucrative segments, established a corporation separate from the holding

company, thereby creating Sinopec Group and Sinopec Corp. The company also aligned the size of its workforce according to the needs of its projects; it reorganized its business activities into geographic clusters: west and southwest and the area of Shanghai. Lastly, it reviewed all business processes related to the area of petrochemical distribution in order to improve its operating model.

In 2001, state-owned companies in China's oil sector including Sinopec, were listed on the New York, Hong Kong, and London stock markets. At the time, Sinopec opened 23% of its capital and was able to raise around US\$ 3.4 billion (Guo 2007). This marked an important turning point in Sinopec's development into a modern company with scientific management and the ability to compete, not only in the national market, but also internationally.

In addition to reforming the business models of state-owned companies, the Central Government also began to promote the internationalization of these companies. Aware of China's growing inability to meet increasing internal demand for commodities, the Central Government saw the internationalization of SOEs as a way to secure a stable supply of oil.

At the time, China lacked an institution at the ministerial level to specifically formulate regulations over the energy sector. The existing institutions were under the control of large state-owned enterprises together with the central government (Bo 2010). In 2005, companies such as CNPC and Sinopec gained ministerial status and their Chairmen gained minister status (Bo 2010).

In 2005, the Central Government formed the National Energy Leading Group - a committee composed of members from the Communist Party's Central Committee, Chairmen from large SOEs and ministries related to the oil and gas sector - to discuss and formulate China's energy policies. In 2008, the National Energy Administration was created under the National Development and Reform Commission with the objective of formulating and implementing energy development plans and industrial policies; of promoting institutional reform in the energy sector, and supervising the coal, oil, natural gas, and power sectors (including nuclear power).

Also in 2005, Sinopec Group founded Sinopec Tech, a subsidiary responsible for developing energy resources and technology for Sinopec Corporation. The principal objective of Sinopec Tech is to integrate and internationally market the technologies developed by Sinopec's research institutes. Sinopec Tech has already supplied technological solutions for refining petrochemicals for clients in Russia, Thailand, and Romania, and has established cooperative links with many international licensors and engineering corporations. In addition, it is important to highlight that Sinopec has eight research institutes, four of which focus solely on different stages of the value chain, including: oil processing, oil exploration, and geophysics. The other four focus their activities on the devel-

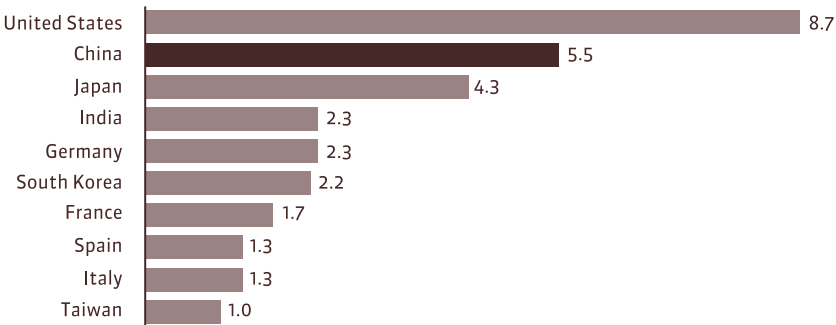
opment of petrochemical technology in relation to different regions in China where Sinopec operates, including: Beijing, Fushun, Shanghai, and Qingdao. These efforts resulted in the application of 19,001 patents in the last seven years, of which 10,587 were authorized domestically and 742 of which were recognized internationally (Sinopec 2011).

**Internationalization Trajectory**

As noted in the previous section, China’s dramatic post-1980 economic growth spurred oil consumption that quickly overtook domestic production capacity. China is now the second largest consumer of oil in the world and the second largest importer of oil after the United States, and will likely assume the number one position as the U.S. develops its shale gas and oil reserves.

Graph 19 - Major oil importers in the world (2011)

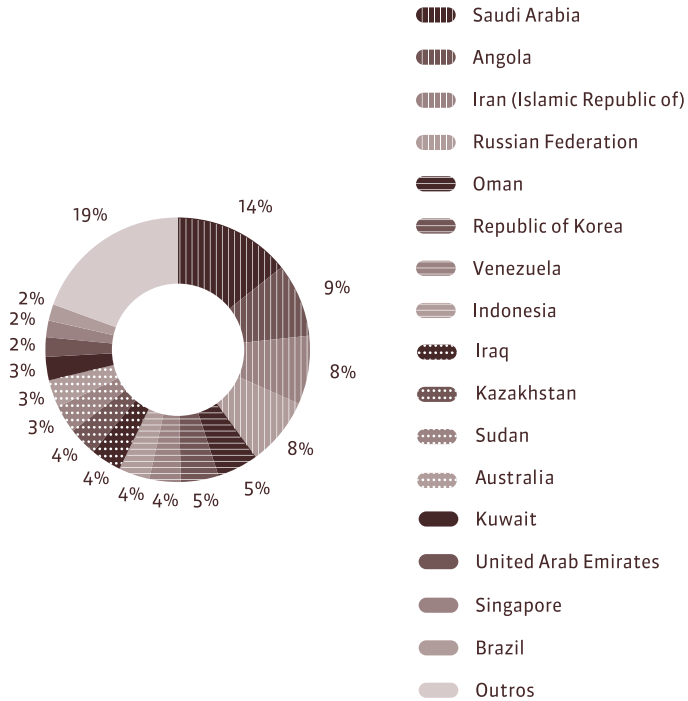
million barrels per day



\*Estimates of total production less consumption, Does not account for stockbuild  
 Source: U.S. Energy Information Administration *Short-Term Energy Outlook (August 2012)*

As a result, energy security became a critical issue for China’s Central Government and different initiatives were taken to secure and diversify oil supply sources in order to mitigate risk and oil dependency. In 2011, 16 countries were responsible for 80% of oil exported to China, with Saudi Arabia supplying 14%, Angola supplying 9%, Iran and the Russian Federation supplying 8% each of the total imported volume, and other countries supplying a smaller share (Graph 20).

Graph 20 - Major oil exporters to China (2011)



Source: CBBC, ITC

Energy security concerns also led to the construction of a network of international pipelines integrated into China's national system of oil storage and distribution (Figure 4). In May 2006, China opened its first transnational pipeline facilitating the transfer of oil from Kazakhstan (EIA 2012). The 620 mile pipeline, linking Atasu in northern Kazakhstan with Alashankou on the Chinese border in Xinjiang, has the capacity to transport 200,000 barrels per day. At the time, the Chinese government saw the construction of this pipeline as a strategic priority and a joint-venture was established between CNPC and a Kazakh partner to develop the project.

Russia became another source of China's oil imports via pipeline. In 2006, the Russian state-owned company Transneft began the construction of a pipeline that stretches 3,000 miles, from the Russian city of Taishet in Siberia, to the Pacific coast. This pipeline is known as the Eastern Siberia-Pacific Pipeline (ESPO)



(BBC 2010). The first phase of the project included the construction of a pipeline with the capacity of 600,000 barrels per day from Taishet to Skovorodino, on the border with China. At that time, the Chinese government signed an agreement with the Russian government to connect this Russian pipeline to China's Daqing oilfield in northeast China. The state-owned CNPC was selected to build the 600 mile-long pipeline that would link the Daqing field to ESPO. The project was completed in August 2010. Today, the two countries are involved in negotiations over China's intention to expand its volume of oil imports (Blank 2012).

Figure 4 - Pipeline between China and Russia and China and Kazakhstan



Preparation: CEBC

Lastly, the Chinese government began to promote the internationalization of state-owned companies through outward foreign direct investment. In the past seven years, 85 Chinese investment projects in the oil and gas sector have been announced for a total of approximately US\$ 130 billion (Table 2). Sinopec, in particular, has announced 35 projects with a total value of more than US\$ 62 billion, making it the primary foreign direct investor in China's oil and gas sector.

Table 2 - Investment of Chinese enterprises in overseas oil and gas

	US\$ (billion)	Projects
Sinopec	62,595	35
CNPC	49,74	29
CNOOC	15,18	13
Sinochem	10,99	8

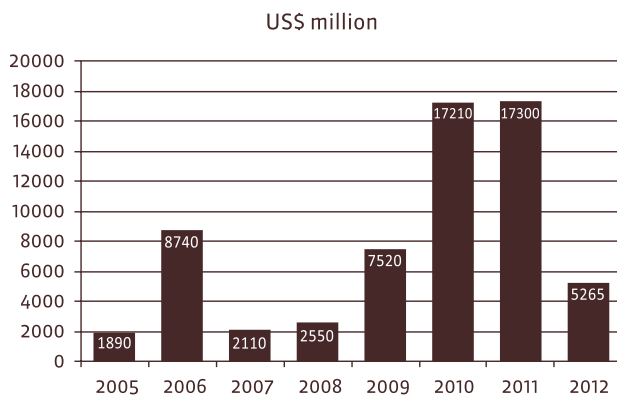
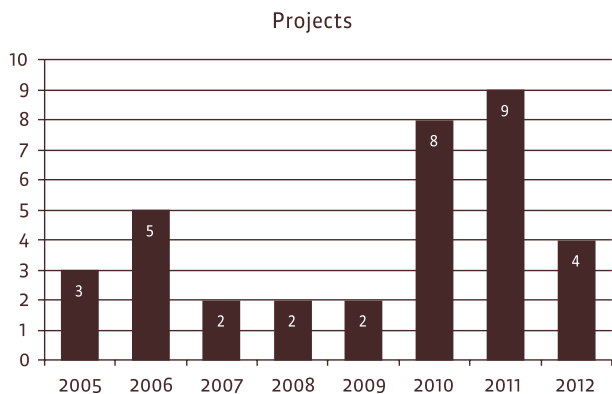
Source: CBBC, The Heritage Foundation

Sinopec began its international trajectory in 2001 with the founding of Sinopec International Petroleum Exploration and Production Corporation (SIPC), an integral subsidiary of the Sinopec Group responsible for overseeing the company's foreign investment projects. SIPC is a business entity focused on the company's international operations, with 19 functioning departments in China, 12 international offices in Africa, Central Asia, Middle East, Russia, Southeast Asia and Latin America, and over 5,000 Chinese and international employees. Since its founding, SIPC functions as the arm of Sinopec Group that implements the company's "Go Global" strategy.

Sinopec's international strategy not only supports the need to secure a stable supply of oil, but also provides the company with the opportunity to acquire resources and competencies. Over the years because of government policies, Sinopec's activities became primarily focused on downstream activities. As a result, Sinopec's international strategy focused on acquiring minority stakes in companies that were experienced in the exploration and development of oil fields, including Shell, ConocoPhillip and ChevronTexaco. This provided Sinopec the opportunity to learn in loco (on the job) and to gradually develop its own internal competencies for these types of operations.

Sinopec's foreign direct investment surged in 2010 and 2011 (Graph 21). This can be attributed to the after-effects of the global financial crisis that caused a significant decrease in the value of oil and gas assets, and led major European oil companies such as Repsol and Galp, to sell some of their assets, creating opportunities for Sinopec.

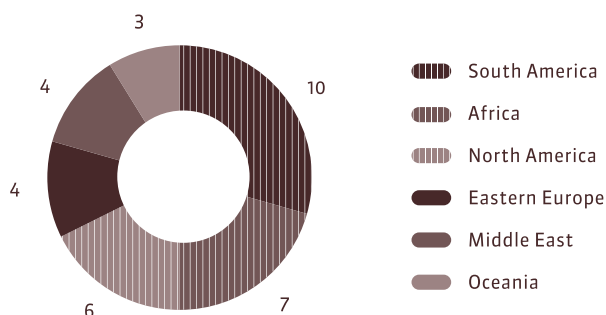
Graph 21 - Evolution of Sinopec's investments abroad



Source: CBBC, The Heritage Foundation

The geographic distribution of Sinopec's foreign direct investment is regionally diversified (Graph 22). Sinopec has significant operation in Brazil, Canada, Australia, and Angola, among others. It is important to highlight that Sinopec's internationalization trajectory is a very recent development; 60% of Sinopec's announced investments have taken place in the past two years. As a result, the Chinese company is still developing its capabilities to operate internationally, as acquisitions present new challenges to the company, including the need to integrate different business models and distinct organizational cultures.

Graph 22 - Geographical distribution of investments by Sinopec Overseas (number of projects)



Fonte: CBBC, The Heritage Foundation

Since the company's restructuring in 1998, Sinopec has adopted a business model and internal process based on international standards. In addition, the company also promotes a series of initiatives to facilitate the integration of employees from a newly acquired company. This includes exchange programs, which bring foreign managers and directors to Sinopec's headquarters in China to learn about Sinopec's operation, management practices, and cultural organization. Sinopec also makes a strong effort to train future leaders of international branches about local customs, as well as to adapt its business model to the local business environment.

Lastly, it should be highlighted that over the past 10 years, Sinopec has established partnerships with large MNEs to develop technologies to be utilized in China and internationally. For example, Sinopec is working to develop downstream products with BP Chemicals, gasification technology with ChevronTexaco, technology to exploit shale gas with ConocoPhillips, and renewable fuel and aircrafts with Airbus. These projects contribute to increasing the capacity of Sinopec's international operations and to position the company as a major global player in the industry.

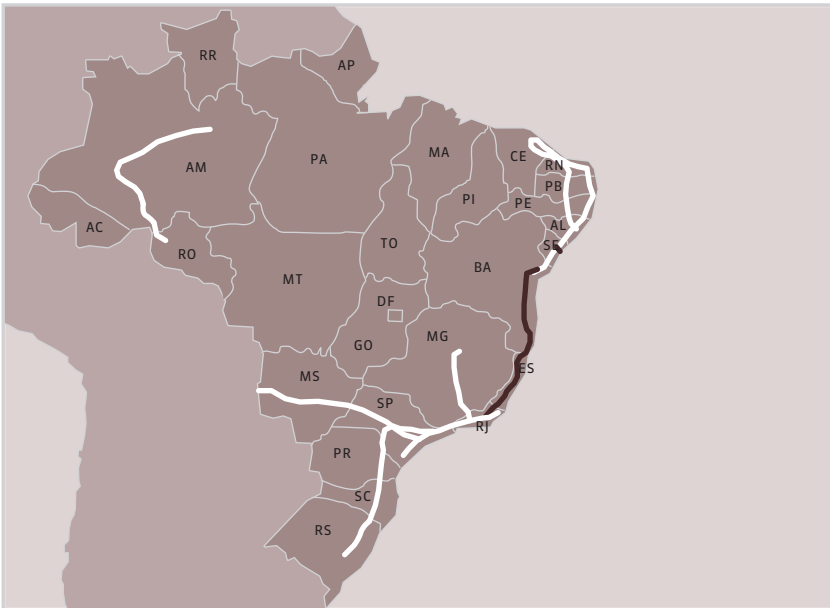
### Sinopec in Brazil

Sinopec's activity in Brazil began in 2004 with President Lula's visit to China accompanied by a delegation of over 300 executives, including representatives from Brazil's largest state-owned oil company, Petrobras. At the time, Petrobras was interested in establishing an office in China and looking for Chinese partners in the oil and gas industry. The trip marked the beginning of negotiations between Petrobras and Sinopec for a joint infrastructure project in Bra-

zil's oil and gas sector. By the end of 2004, during Chinese President Hu Jintao's visit to Brazil, Petrobras announced that it would contract Sinopec to develop part of its GASENE natural gas pipeline project.

The GASENE project included the construction of a 4500 kilometer pipeline that would expand Brazil's natural gas transportation network by linking gas networks in the southeast to those in the northeast (Figure 5). The project was divided into three different sections, with Sinopec responsible for the planning, development, and construction of two of the segments: Caicimbas-Catu (GASCAC) and Cabuinas – Vitoria (GASCAV). The 940 kilometer-long GASCAC segment would connect the networks in the state of Espírito Santo to the state of Bahia, while the 300 kilometer-long GASCAV segment, would link the state of Rio de Janeiro to the state of Espírito Santo. Overall, it is estimated that Sinopec's two segments cost US\$ 1.9 billion and generated 12 thousand direct and indirect jobs during construction. In addition, Sinopec introduced for the first time in Brazil the Vacuum Lift, a device that lifts pipelines by means of vacuum suction and eliminates the use of wire ropes and straps. Used in the section between the cities of Valencia and Catu, the Vacuum Lift reduced the 28-inch pipe lifting time from 10 minutes to 25 seconds. The project was finalized in 2010 with an inaugural ceremony attended by leaders from both countries.

Figure 5 - Representation of the project (pipeline in brown)



Source: Petrobras

Sinopec's initial entry into Brazil through the GASENE project differed from its traditional internationalization strategy. In most cases, Sinopec expands its operations abroad through large, high-profile acquisitions. In Brazil it opted for a low-profile entry strategy, allowing the company to establish itself locally and gain market knowledge before attempting a large-scale acquisition. In addition, Sinopec's success with the GASENE project paved the way to four additional engineering service projects in Brazil, including Samarco, Gasoduto TRBA, UFN III and Pontos de Entrega (Table 3). These projects allowed Sinopec to develop its skills and reputation in a variety of sectors outside of oil and gas. For example, the Samarco project included the construction of a pipeline for iron slurry, while the UFN III project involved building a fertilizer plant. Sinopec was able to utilize capabilities it developed during the GASENE project to build pipelines in three out of the four projects. Overall, Sinopec estimates that its projects in Brazil have generated over 20,000 jobs during construction, with local employees making up 99% of the work force, as well as US\$ 200 million in taxes.

Table 3 - Additional Sinopec's services projects in Brazil

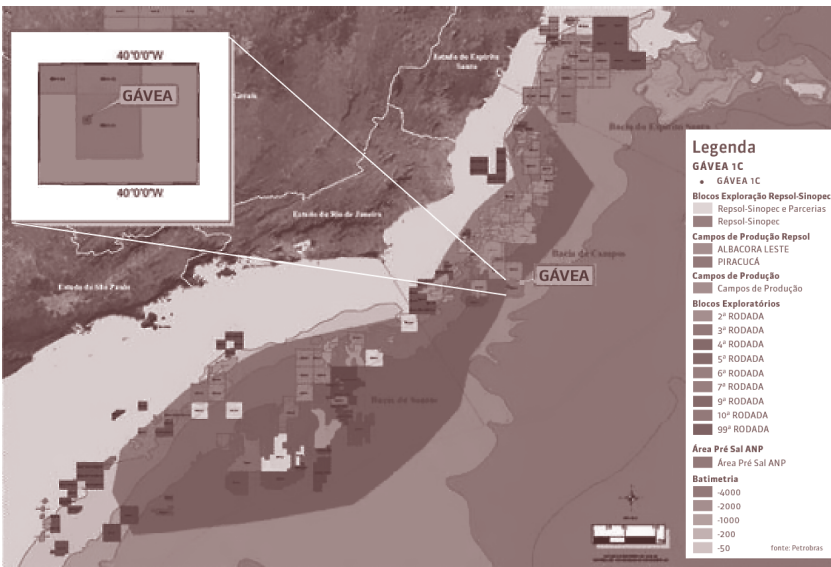
Sinopec's Engineering Services Projects in Brazil		
Project	Sector	Description
Samarco	Mining	Sinopec Brazil Co. formed a consortium with local company GDK to construct a 401 km pipeline with annual transmission capacity of 20 million tons. The pipeline will transmit iron slurry mined in Estado de Minas Gerais to Estado do Espirito Santos port, with the goal to effectively lower transmission cost while increasing Brazil's iron ore exports. The project is scheduled to be complete in January 2013 and expected to create 4000 jobs.
TRBA Pipeline	Oil and Gas	Sinopec was contracted by Petrobras to construct a 30 km long pipeline to connect GASCAC pipeline with Salvatore offshore gasification terminal to ensure gas supply to Northeast Brazil. The construction phase of the project has generated 650 jobs.
UFN III	Agribusiness	The project, controlled by Petrobras, will generate a production of capacity of 760 KTPA synthetic ammonia and 1.3 MTPA urea. Sinopec formed a consortium with local companies Galvão and Construcap to execute the project, expected to generate 6,000 jobs. As one of Brazil's key projects in PAC2, the project will effectively reduce chemical fertilizer import and effectively increase Brazil's agriculture development.
Petrobras Rio City Gas Project	Oil and Gas	Sinopec signed an agreement with Petrobras in April 2011 to provide engineering Service for Petrobras's 3 city gas revamping projects to increase gas supply to Rio.

Source: CBBC, Sinopec

From 2005 to 2009, Sinopec operations in Brazil were limited to providing engineering services. Beginning in 2010, the company significantly increased the scope of its activities with a US\$ 7.1 billion investment to acquire a 40% share in the Brazilian unit of Repsol, a Spanish energy company. The joint venture would guarantee Repsol the funding to explore vast oil fields off Brazil's coast, while maintaining control of the assets. On the other hand, by purchasing a minority stake in Repsol, Sinopec obtained access to the knowledge and capabilities of exploring Brazilian deep-sea oil fields developed by the Spanish company over the years.

Lastly, it is important to highlight that Repsol has a leading position in exploration activities in Brazil's offshore Santos, Campos, and Espírito Santo Basins, with participation in 16 blocks and operations in six. As a result of the joint venture, Sinopec also acquired stakes in Brazil's pre-salt reserves (Figure 6). It is expected that in 2013, Repsol-Sinopec will begin the exploration of the Sepinhoa pre-salt field, partnering with BP and Petrobras. The field is projected to initially produce 30 thousand barrels/day, with the expectation that this number will increase to 150 thousand barrels/day in 2014. In addition, Repsol-Sinopec was responsible for the more recent pre-salt discovery of the Gávea field, with total resources estimated at over 700 million barrels of light oil and 3 trillion cubic feet of natural gas (the equivalent of 545 million barrels of oil).

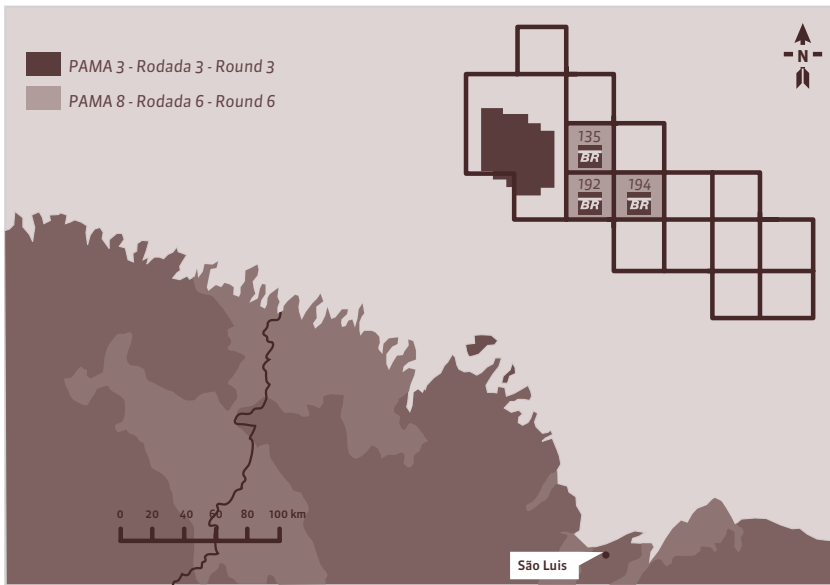
Figure 6 - Representation of the pre-salt reserves



Source: Petrobras

In 2010, alongside the Repsol stake acquisition, Sinopec also signed a cooperation agreement with Petrobras for investment in exploration and production, including a 20% share in the development of the PAMA-3 and PAMA-8 blocks located in the offshore fields of Pará-Maranhão basin (Figure 7). According to statements by Petrobras, BM-PAMA-3 and PAMA-8 have a total area of 3.975 km<sup>2</sup>, and their exploration phase is expected to last eight years. Under the agreement, Sinopec will provide the capital for Petrobras to explore the two blocks.

Figure 7 - Representation of the PAMA-3 and PAMA-8 blocks



Source: Petrobras

In 2010 there were indications that Sinopec would make an offer for Brazilian oil assets and a stake in OGX Petróleo & Gas Participações SA, a Brazilian private oil and gas company belonging to the EBX group. The President of Sinopec Corp, Mr. Shu Lin, confirmed that Sinopec was in negotiations to buy a part of OGX capital, but since then there have been no further public announcements. Information regarding Sinopec's possible participation in a new Petrobras petrochemical complex (Comperj), in the state of Rio de Janeiro also emerged in 2010 during the negotiations for a US\$ 10 billion loan awarded to Petrobras from China Development Bank. Up until now, there have been no announcements con-



firming or denying Sinopec's participation in the Comperj project. In 2011, Sinopec bought a 30% stake in the Brazilian unit of Portuguese oil company Galp Energia SA for US\$ 4.8 billion. Currently, Galp Brasil participates in 33 blocks dispersed over seven basins and has 19 projects in partnership with Petrobras, of which 14 are offshore and 5 are onshore. In addition, Galp's assets include deep-water blocks in Brazil's pre-salt Santos Basin, including the Lula and Cernambi fields which have estimated volumes of 8.3 billion barrels of oil and natural gas. Sinopec's investment motivation and model for this project were similar to that of the Repsol acquisition. Sinopec's junior role in Galp Brasil, marks the continuation of its strategy to take minority stakes with partners that have long-term relations with the host country. In addition, Galp will maintain its operations in the exploration and development of Brazilian oil fields.

Lastly, in 2012 Repsol-Sinopec announced that it would invest around US\$ 4 billion to develop additional pre-salt fields (Carioca, Sepinhua, and Guara) during the period from 2012-2016, of which Sinopec would be responsible for US\$ 1.675 billion. Sinopec will continue to only invest capital and not undertake the exploration and development of projects.

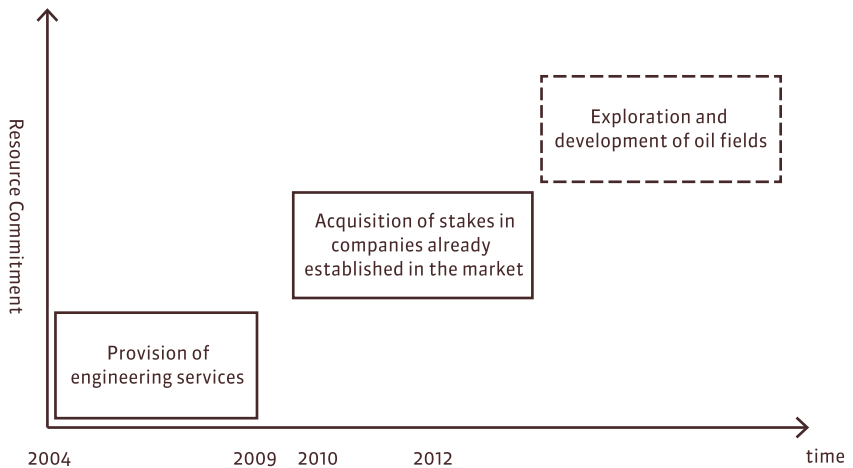
### **CBBC Analysis – Sinopec Case**

Sinopec has paved a successful trajectory in Brazil, operating initially as an engineering service provider and then investing in the country with a minority position bought from established operators with world-class assets and positive track records in exploration and production. Sinopec's cautious and deliberate entry strategy allowed the company to build up local knowledge and capabilities necessary to operate in the Brazilian market.

More generally, in view of its close alignment with the Chinese government, Sinopec can be characterized as a company that plays by the rules, avoids reputation risks, and will most likely extend the scope and magnitude of its activities progressively. Sinopec's conservative behavior is driven by the nature and risks associated with the industry, as well as by the desire to avoid exposing the Chinese government to embarrassment that would cause negative impacts on diplomatic bilateral relations.

Over time, Sinopec will likely undertake exploration and development activities independently, or more likely, in partnership with other companies as is the norm in the industry. An indication of Sinopec's long-term commitment in the country will be its participation in the forthcoming National Agency of Petroleum and Gas (ANP)'s 11th Oil and Gas bidding round, in which various companies will compete for rights to explore and develop Brazil's pre-salt oil fields.

Figure 8 - Sinopec's trajectory in Brazil



Preparation: CBBC

Finally, although Sinopec has yet to directly engage in R&D activities, Repsol-Sinopec has established partnerships with research institutions in the country. The company announced that it will invest US\$ 8 million in 2013 and US\$ 20 million in 2014 to develop technology partnerships with research centers at Brazilian universities such as UFRJ, PUC-Rio, and Unicamp. These initiatives are consistent with the regulatory framework for oil exploration in the country.

## Huawei Case Study

### Company Profile

Huawei Technologies Co. is one of the leading global providers of telecommunications equipment. Founded in 1988 by former People's Liberation Army officer, Ren Zhengfei, the employee-owned company has transformed from a small private company to a multinational telecom giant. Today, Huawei provides telecommunication network products, services, and solutions to network carriers around the world and more recently, has expanded its business into mobile-device and enterprise-network markets. With over 140,000 employees, Huawei serves 45 of the top 50 carriers, along with over one-third of the world's population (Huawei 2012).

According to Huawei's Annual Report in 2011, the company's sales revenue totaled RMB 203.93 billion (US\$ 32.78 billion), with net profits at RMB 11.65 billion (US\$ 1.85 billion). Overseas operations accounted for almost 70% of this total – with domestic sales at RMB 65.57 billion last year, up 5.5% from 2010, while overseas sales rose 15% to RMB 138.36 billion (Huawei Annual Report 2012). In 2012, Huawei is expected to overtake frontrunner Ericsson to become the largest telecom equipment provider by revenue with an estimated RMB 220 billion (US\$ 35.5 billion), compared to Ericsson's estimated projection of US\$ 34.8 billion.

### **Growth Trajectory and Telecom Sector in China**

Huawei's success is largely attributed to early efforts to consolidate market share in China. In 1988, Huawei was established as a collective enterprise in Shenzhen, China with a total capital of RMB 20 million. At the time, the company functioned mainly as a sales agent in mainland China, distributing imported telecommunications switches and other equipment from a Hong Kong company. In 1990, Ren Zhengfei invested much of Huawei's profits to develop and produce Huawei's own product line, and in 1993 came out with the C&C08 – the first large-scale digital program-control switch developed in China by independent design and development (Zhu 2008). Comparatively cheaper and more reliable than existing technologies, the new switch allowed Huawei to break into the highly competitive domestic market (Breznitz and Murphree 2011).

Throughout the 1980s and early 90s, China's telecommunication equipment sector was dominated by MNEs and large government-supported SOEs, eager to take advantage of China's densely populated coastal cities (Cheng 2006). Lacking the capital and government ties to compete with these giants, Huawei initially opted for an alternative strategy: targeting markets in China's small and medium-sized cities largely ignored by the foreign MNEs. According to interviews with Ren Zhengfei, Huawei's strategy was inspired by Mao's ideas of "occupying the countryside first in order to encircle the cities" (Li 2006). With local government support, Huawei was able to establish supply chains and joint ventures with post and telecommunication bureaus in the provinces (Li 2006). Huawei's brand and reputation spread as the company successfully consolidated market share in rural and interior regions. In 1995, Huawei generated sales of RMB 1.5 billion mainly derived from rural markets in China (Huawei, 2011). By 1996, Huawei had the second largest market share in telecommunication switches in China (Breznitz and Murphree 2011). Dominance of China's interior markets gave Huawei the basis on which to build a national presence.

Huawei's success is also attributed to its strategic focus and comparatively heavy investment in R&D - unusual for Chinese telecom firms at the time. From its start-up, Huawei invested on average 10% of its annual sales volume in new product research and development, which resulted in new lines of products and services that up until then had only been offered by foreign companies

(Li 2006). R&D investments also resulted in the ability to respond directly to consumer demand in China's interior markets. The company established R&D centers in Beijing, Shanghai, Nanjing, Hanzhou, Xian, and Chengdu, in addition to its Shenzhen headquarters. According to Breznitz and Murphree (2011) after the success of its first products, Huawei began to focus on improving and reducing costs of existing technologies and concepts, rather than investing in breakthrough technology.

Huawei's cost advantage and efficiency in R&D created the unique capability to customize and adapt products and solutions to client necessities, at times creating new products in cooperation with network providers. In 1997, founder Ren Zhengfei visited IBM's headquarters in the US, and was so impressed by CEO Louis Gerstner's ideas of modern management and a "customer-centric approach" that he transferred some of the customer-centric service ideas of IBM to Huawei, stressing the importance of responding to customers' needs (Li 2006). According to Zeng and Williamson (2007), Huawei always worked to meet demands that the authors label as "troublesome" so that the innovation capacity of the company would be tested and expanded. With its comparatively low cost R&D, adaptability and responsiveness to market needs with value-added products, Huawei was able to gradually win market share from western MNEs, so that by 2004 Huawei became the largest telecom vendor in China with 76% market share and sales of US\$ 5.58 billion (Harwit 2007). Huawei continues to maintain its emphasis on R&D development, with R&D expenditures of over US\$ 15 billion over the past five years.

Huawei was only able to gain significant domestic market share in second generation mobile networks (2G) in the late 2000s. In 1995, established foreign players like Ericsson won the majority of early contracts for 2G networks while domestic companies, Huawei and ZTE were forced to develop their markets overseas. Nevertheless, according to Mi & Yin (2005) GSM network equipment became Huawei's flagship product in international markets. It was only in 1999, four years after the first GSM service had been put in service, that four major domestic equipment vendors, including Huawei, made their first GSM sale in the Chinese market (Y.Hong et al 2007). In 2006, in an effort to support home-grown companies, the Chinese government began to require local telecom operators to purchase GSM equipment from domestic producers. It was only then that Huawei was able to use the capabilities it developed overseas to compete in 2G markets with large MNEs operating in China. By 2008, Huawei captured 22.5% of the 2G telecom equipment market in China making it the market leader for the first time.

Unlike its experience with the 2G networks, Huawei was well positioned to compete directly with MNEs in China for third generation mobile networks (3G) in China. Although 3G networks and products were launched in Europe and other Asian countries as early as the 2000s, the Chinese government did not issue 3G

operational licenses until after 2008. As a result, Huawei was able to gain experience selling 3G technologies to overseas markets before the domestic 3G market opened up. From 1998 to 2005, Huawei spent a total of US\$ 725 million on 3G-related research projects, hiring over 6,000 researchers (Li 2006). As of 2005, Huawei had 10 joint research labs with key industrial player in 3G technology (Boutellier, Gassmann, and Von Zedtwitz 2008). As a result, when it came time for China to open up its 3G market in 2008, Huawei was able to capture over 28% of the domestic market in less than a year.

Beginning in 2011, Huawei expanded its business into the mobile phone market. Taking advantage of China's well-developed production networks, Huawei began producing low-end devices and rapidly gained market share. In the fourth quarter of 2012, Huawei shipped out 10.8 million units of mostly low-end smartphones, or 4.9% of global market share, behind only Samsung and Apple, according to research firm IDC (Osawa 2013). In 2012, the company announced its first high-end smartphone, the Ascend D Quad, based on Google Inc.'s Android operating software.

Finally, Huawei has been undertaking efforts to develop its product line for LTE (Long Term Evolution) technology - a new standard for telecommunication networks that enables much higher speed rates compared to the 3G network. LTE technology, also known as fourth generation mobile networks (4G), is expected to become Huawei's flagship product in the near future.

### **Internationalization Trajectory**

In the late 1990s, as Huawei gained market share in China, the company began looking for opportunities to expand its business outside of China's national borders. From the start, Ren Zhengfei's global ambitions were evident. At that time, he claimed that "the future global telcom equipment market will largely be divided and shared by three major players, and Huawei will be one of them" (Li 2006). In 2005, Huawei's international contract orders exceeded domestic sales for the first time putting the company among the top five competitors. Nowadays, over 68% of Huawei's revenue comes from international sales, demonstrating the success of Huawei's internationalization strategy. How did the company shift, in 15 years, from a basic equipment provider for rural China, struggling to gain the domestic market, into one of the leading telecom equipment companies in the world, with operations in more than 140 countries?

Initially, Huawei's internationalization trajectory targeted markets in developing countries, including Russia and countries in Latin America, Africa, Southeast Asia and the Middle East. By the late 1990s, Huawei had gained a significant share in China's domestic telecom market; however, the company lacked the high technology, brand name, and reputation to contend in fiercely competitive mature telecom markets. According to Li (2006), Huawei's international trajectory was

similar to its domestic strategy, “to begin with a relatively weak target and then to challenge a strong market.” Developing countries had similar characteristics to the rural provinces that Huawei dominated in China, namely: underdeveloped basic telecom infrastructure and resource constraints - characteristics that facilitated Huawei’s market entry and success.

Much of Huawei’s initial sales push abroad was based on a reputation for lower cost products. According to Zhu (2008), Huawei’s product prices in Africa and Latin America were 30% lower than that of the U.S. and European companies. Zhu explains that Huawei’s low cost advantage was not generated just by low cost manufacturing, but also from low-cost China-based R&D and engineering resources. For example, the average cost of a Huawei R&D employee is six times less than an employee from a European company and works twice the number of hours per year.<sup>2</sup>

In 1997, Huawei took its first step outside of China to neighboring Russia. Facing an economic crisis, Russia lacked financial resources and technology to update its telecommunications infrastructure. With its low-cost advantages in R&D and adaptable technologies, Huawei was an attractive partner for Umberto Konzern Russia, a Russian telecommunications company and formed a joint venture to get access to the market. This proved very successful and by 2000, Russia became one of Huawei’s main sources of overseas revenue. Beginning in 1999, Huawei also entered emerging markets in Brazil, Ethiopia, Southeast Asia and the Middle East. By 2011, over 49.9% of Huawei’s total revenue was estimated to originate from developing countries.<sup>3</sup>

Huawei needed to increase its R&D capabilities and technological abilities in order to compete successfully in developed markets, as well as in China’s urban centers. The company wanted to present itself primarily as an innovator rather than a low-cost provider. Toward this end, Huawei began to target major international markets with the aim of leveraging and acquiring strategic assets in R&D.

Beginning in 1999, Huawei solidified a series of technological agreements and established R&D centers in technological hubs around the world. The first of these centers was in Bangalore, India, where the company aimed to take advantage of India’s software development capabilities. By 2001, Huawei achieved the Capability Maturity Model (CMM) level-4 accreditation, and in 2003 the CMM level-5 accreditation. Ten years later the company had already set up 23 research centers in Germany, Sweden, the UK, France, Italy, Russia, India and other countries. In addition, it established 34 joint innovation centers with top carriers around the world.

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2 - According to Huawei interviews by Zhu (2008)

3 - CBBC estimates based on Huawei revenue figures for 2011.

Overall, Europe is the main destination for Huawei's investment in R&D facilities with 10 R&D centers, focusing on a variety of sectors (Huawei, 2012):

- Stockholm: Mobile system design, Chipset design
- Gothenburg: Microwave, base station
- Lund: Terminal chipset design
- Berlin: Standard technologies
- Munich: MBB solutions, antenna, software platforms, optical, future network research
- Milan: Microwave, optoelectronics
- Brussels: Carrier software
- Ipswich: Optoelectronics
- Nuremburg: Energy
- Paris: Standard technologies

Huawei also invested heavily in R&D in the United States (US\$ 135 million in 2010). According to its website, Huawei invests about 20% of its U.S. revenue into local R&D each year. In addition, Huawei established partnerships with institutions of higher education, allocating over US\$ 10 million in 2010 to support programs at American universities, including Harvard, MIT, Stanford, and Yale University. In 2012, Huawei established itself in Silicon Valley. With over 600 employees, the center is leading global efforts in developing enterprise solutions, including telepresence and cloud computing.

Heavy spending on R&D enabled Huawei to build the necessary competence and innovative products to position itself as a serious competitor in mature markets in Europe and North America, dominated for years by established companies, such as Ericsson, Lucent, Motorola, and Cisco.

Huawei initially focused its efforts on European markets, where the company was able to offer reliable, high-tech services and products for a lower price than western rivals. In 2001, Huawei won a contract to implement the system 10Gbps Synchronous Digital Hierarchy (SDH) in Berlin, Germany. In 2004, Huawei established its European headquarters in the United Kingdom. That same year, the company also won its first significant contract in Europe valued at over US\$ 25 million with Dutch operator Telfort. In 2005, Huawei signed a mutual distribu-

tion agreement with English firm Marconi to sell one another's products in the European market. In 2005, Huawei was selected as a preferred 21<sup>st</sup> Century Network (21CN) supplier by British Telecom (BT) to provide multi-service network access (MSAN) components and optical transmission equipment. In 2006, Spanish Vodafone chose Huawei to develop its network of radios.

By 2007, Huawei had established partnerships with all the top operators in Europe, including British Telecom (BT) and Vodafone of Britain, Telefónica of Spain and Everything Everywhere, a partnership between France Télécom and Deutsche Telekom (DT) in Britain, Telefonica O2, Telecom Italia, Swisscom, Telenor, TeliaSonera and KPN. Huawei's reputation for high quality products and services won it the 2007 Global Supplier Award by Vodafone. In 2009, Huawei successfully delivered the world's first LTE/EPC commercial network for TeliaSonera in Oslo Norway. TeliaSonera also selected Huawei as a provider to expand its 2G, 3G, and 4G network in Norway and separately awarded a contract to build Europe's first SDR-enabled commercial GSM/UMTS SingleRAN network in Finland. In 2011, European revenues accounted for nearly 12% of total revenue, and sales in the region rose 26%, more than twice the company's worldwide growth rate (Osawa 2012). Currently, Huawei has over 7,300 staff based in Europe, with more than 780 involved in research and development. Huawei continues to expand its presence in the region and in December 2012, Huawei announced that it plans to open a smartphone software development center in Helsinki and double the size of its research operations in Europe (Grundberg 2012).

As the world's largest and most competitive telecom market, the United States was another important target for Huawei. Nevertheless, throughout the 2000s, Huawei struggled to win regulatory approval from U.S. government officials, largely due to security concerns related to corporate espionage and possible ties to the People's Liberation Army. In addition, Huawei has been sued in the United States by two of its major competitors, Cisco Systems and Motorola over accusations of intellectual property theft.

Nevertheless, in 2003 Huawei formed a joint-venture with 3Com, a U.S.-based computer-networking technology company for the establishment of a sales channel in the U.S. In 2007, Huawei with the support of Bain Capital, put forward an acquisition proposal for 3Com; however, in 2008, Huawei was forced to abandon the bid, after an American government panel raised questions about national security risks. In 2010, Huawei also lost a bid to supply mobile telecom equipment to Sprint Nextel after lawmakers expressed similar concerns.

While the company has yet to win a single big contract from top-tier U.S. carriers, it has made progress with smaller carriers and Internet wireless providers. In 2006, Leap Wireless, a spinoff from Qualcomm, purchased Huawei's 3G equipment and more recently the company selected Huawei to deploy CDMA networks for Cricket Communications (Cricket), the 7th largest U.S. wireless



operator, and Denali Spectrum (Denali), wholly owned subsidiaries of Leap. In 2009, American internet communications firm, Clearwire, majority owned by Sprint, contracted Huawei to supply WiMAX radio access network equipment to facilitate the launch of its mobile Internet service. In addition, Huawei is now also a supplier for its 4G network development. More recently, many of Huawei's personal devices are being sold in American stores and by various carriers including T-Mobile and AT&T, though often under the carrier's brand name.

In October 2012, a bipartisan report from the House Permanent Select Committee on Intelligence concluded that both Huawei Technologies Inc., and another Chinese telecom firm, ZTE Inc., posed security risks to the U.S. because their equipment could be used for espionage on Americans. The Committee recommended that the U.S. block acquisitions or mergers involving the two companies through the Committee on Foreign Investments. It also recommended that the U.S. government avoid using equipment from the firms, and that U.S. companies seek alternative vendors for telecommunications equipment. Huawei denies these accusations and continues to reach for its long-term goals in the United States.

### **Huawei in Brazil**

Operating in Brazil for over 10 years, Huawei is the market leader in fixed line and mobile broadband. In 2011, the company dominated 70% of the national market for USB modems with 3G access, selling over 1 million terminals since the implementation of the system in Brazil. In addition, Huawei supplies network infrastructure to all the principle telephone fixed line and mobile carriers, including VIVO, Oi, TIM, and Claro.

Created in 1999, Huawei Brazil established three representative offices in São Paulo, Rio de Janeiro, and Brasilia. In 2003, the company announced the creation of a training center in Campinas, São Paulo that has since provided specialized technical training to over 6,000 students. In 2008, for the first time Huawei's Brazilian revenues reached US\$ 1 billion as the company's contracts expanded across the country. Currently, Huawei Brazil has over 3,900 employees of which 87% are locally hired.

Huawei's entry into Brazil coincided with a restructuring of the country's telecommunications sector through the privatization of Telebras, the state-owned telecom company, as well as the auction off of airwave. The process of privatization and the concession of new spectra resulted in the modernization of the sector, creating a new market and increased demand for telecom equipment and networking devices. According to an interview<sup>4</sup> with Li Xiaotao, Former Vice Presidente of Huawei Brazil, although the telecommunications sector was

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4 - Interview in China Brazil Newsletter - Edition 1

opening up to foreign companies, at the time Brazilian operators were unaware of Huawei and its products. Therefore, Huawei's initial phase in the country was focused on establishing the company's reputation and brand potential.

According to Li, Huawei's activities in Brazil can be divided into two different phases. The first phase began with Huawei's entry into Brazil and focused on building Huawei's name through various marketing initiatives. One of these was the "New Silk Road" program, a global initiative that sent potential clients to visit Huawei's headquarters in Shenzhen and its operations in Beijing and Shanghai. Through this program, Brazilian executives became familiar with the evolution of China's telecom industry and Huawei's capabilities. Marketing activities remained the focus of Huawei's strategy in Brazil during the first two years of the company's operation in the country. In 2001, Brazilian telecom operator, CTBC, headquartered in the Brazilian state of Minas Gerais awarded Huawei its first contract; however, according to Li, CTBC was a relatively small company that needed a standard service that did not provide Huawei with the opportunity to demonstrate its potential.

Huawei's second phase, characterized by increased market presence, began in 2006, when the company closed its first large contract with leading telephone operator, VIVO. The VIVO contract represented a milestone for Huawei in Brazil and provided the company with the first opportunity to utilize its R&D capacity to create a GSM network in Brazil. To support its customization efforts, Huawei opened up R&D centers at universities in Campinas, São Paulo, and Brasilia. The project resulted in the largest GSM network in Latin America.

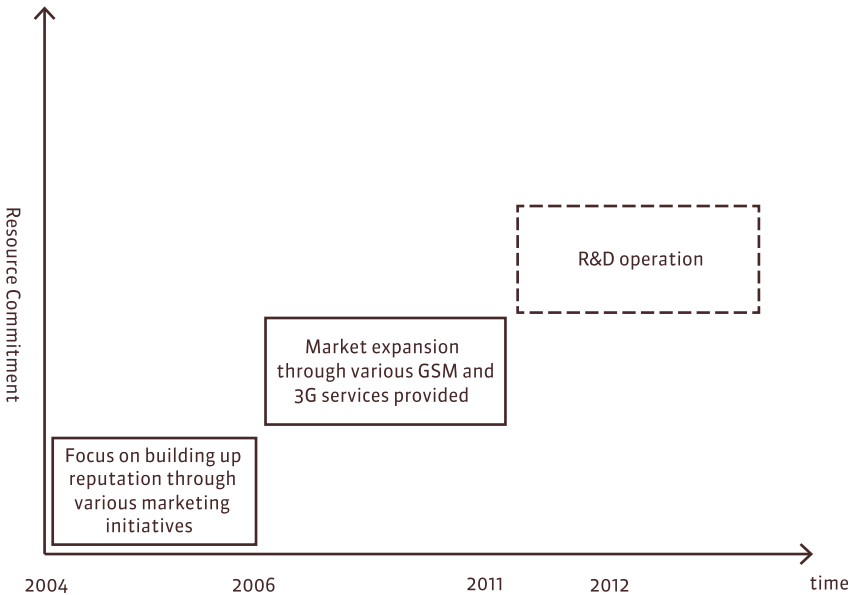
After the success of Huawei's VIVO project, the company received additional contracts from other, major telecom service providers. Nevertheless, it was the advent of 3G networks to Brazil that marked the establishment and development of the Chinese company as a market leader. In 2007, the three main telecom operators in Brazil (Oi, Claro, and TIM) contracted Huawei to develop their 3G networks and modems. At the time, Huawei announced an R\$ 10 million investment in a factory in the Brazilian state of Espírito Santo. Nevertheless, this plan was delayed due to high demand for 3G cell phones and instead, Huawei negotiated an agreement with contract manufacturer Flextronics to produce a wide range of its best-selling products, in addition to the establishment of six regional delivery centers to serve the Brazilian market (Reuters 2008). In 2009, the Brazilian operator Oi, received a US\$ 300 million loan from the China Development Bank which, according to the company, was used to finance investments contracted from Huawei in 2008 and 2009.

Today, Huawei continues to expand its activities in Brazil. During President Rousseff's trip to China in 2011, the company announced a US\$ 300 million investment for the expansion of its R&D center in Campinas. This project could mark a potential shift in Huawei's strategy to a third phase that would include

not only market seeking but also strategic-asset seeking investments to acquire technological capabilities to explore new markets, most likely in nearby Latin America. In 2012, the company announced its goal to become Brazil largest LTE products-related service provider. To fulfill this objective, Huawei has been reformulating its operations in the country. In addition to investing heavily in R&D, in 2011, the company changed its headquarters from São Paulo to Brasilia, enabling it to closely follow new regulations that will shape the LTE market in Brazil.

So far, the Chinese company has created positive spillovers from its activities in Brazil including the creation of 3,900 direct jobs. Partnerships with over 1,000 local suppliers have also generated more than 12,000 indirect jobs opportunities and US\$ 700 million in taxes for the Brazilian government.

Figure 9 – Huawei’s Trajectory in Brazil



Preparation: CEBC

### CBBC Analysis – Huawei Case

Lacking a global brand and reputation, Huawei initially targeted developing markets with low entry barriers. Huawei’s decision to enter Brazil was facilitated by the restructuring of Brazil’s telecommunications sector through the privati-

zation of a state-owned monopoly. After this period of transition, a mix of increased competition and regulatory targets led to a growing demand for more advanced technologies, including GSM services and equipment, and subsequently 3G networks. Given the capital-intensive nature of the telecommunications sector, Brazilian operators are constantly striving to minimize capital expenditure. Therefore, Huawei's ability to offer low cost, effective, and technologically updated services provides a cost-efficient solution.

Overall, Huawei's strategy in Brazil focuses on service provision. In addition, the company has established an Original Equipment Manufacturer (OEM) agreement with Flextronics and continues to import equipment and components from China. This strategy allows for efficiency gains from OEM manufacturing to be passed along to customers, while ensuring that high-end service and client interface remains with Huawei.

Nevertheless, a number of challenges remain. If the government begins to impose local content requirements in the telecommunication sector, Huawei's cost advantages will evaporate. The company will be forced to operate under Brazil's high-cost manufacturing infrastructure. Instead of relying on a cost-effective strategy, Huawei will need to shift its market position and begin offering higher technology products that require greater R&D operation in Brazil. While the Chinese company has already started to invest in local technology development, these efforts are still at an early stage.

Huawei faces additional obstacles common to both foreign and domestic firms operating in Brazil. As a telecom infrastructure service provider, Huawei requires a large number of employees to build and maintain its network, and provide high value-added services. To enter the market, the company employed an aggressive low-cost rapid response strategy, in part dependent on using a well trained and highly competitive Chinese labor force, already adept at the intricacies and particularities of its equipment. The early phases of the strategy were at odds with Brazil's labor regulations which – as in many countries - restrict the number of work permits granted to foreign employees. Over time, Huawei has trained Brazilian employees to ensure that Brazilian legislation would not become a barrier to its expansion in the Brazilian market.

Huawei's future prospects of success in Brazil will be closely tied to its ability to adapt to the new 4G (or LTE) market. Already, the company is developing LTE capacities in other countries. There is no evidence to suggest that Huawei will alter its production model for 4G technologies, and it remains to be seen whether the company will expand its R&D activities in Brazil to include the development of technologies, or if it will use the R&D center in Campinas to adapt technologies already developed in China or Europe to the Brazilian market. According to a presentation by President of Huawei Brazil Veni Shone in November 2012, the objective of the R&D Center in Brazil is to provide technical support for

Huawei's services and to modify the design and features of products that are provided by the Chinese company in Brazil. This indicates that the company's R&D activities in Brazil will focus on the modification and adaptation of already developed technologies resulting in incremental innovation rather than break-through technology.

## Conclusion and Implications

The recent upsurge in Chinese investment announcements in Brazil documented by CBBC took many analysts by surprise. Although trade flows had been growing quasi-exponentially in the last decade or so, inward investment from Chinese firms was lagging until 2010. The fact that the first round of major investments conformed with the predominant stereotype of state-controlled companies seeking to secure direct or indirect access to raw materials did not help to dispel the perception that Chinese investments had a *déjà vu* characteristic; namely, exploiting natural resources to be processed in the home country.

In many ways, the more recent round of announcements and actual investment projects have served to revert that notion to a significant degree. Brazil is targeted both as a manufacturing base to supply domestic and regional markets, and to enhance capacity in capital goods, vehicles and telecommunications equipment, and complex industries that produce high value products. By the same token, highly needed infrastructural investment – such as in power transmission or in railway links that will alleviate overcrowded highways – has been very much welcomed. Increasingly, China will be perceived as a “normal” albeit late-coming investor, whose presence should not raise eyebrows anymore that any other investor operating under the laws and regulations which frame the activities of both domestic and foreign companies.

Brazil has historically been a fairly open economy when it comes to direct foreign investment and in 2012 the country received a flux of US\$ 65 billion (US\$ 41 billion above the second largest recipient in the continent). Governments have realized that such inflows are important both from a macroeconomic perspective (as they serve to fully finance a growing current account deficit estimated at 2.4% of GDP for the year, providing as well a positive impulse for overall investment) and are instrumental in modernizing the economy.

From this perspective, Chinese investment is simply an addition – a significant one, of course – to the already large inflows of FDI to the Brazilian economy. Eventual restrictions it may face in the future are unlikely to derive from its national origin: constitutionally, the country does not discriminate against any nationality when it comes to FDI and whatever restrictions there are affect FDI from all origins. Some of them are common in most countries, particularly those related to national security concerns; others are barriers that are still under discussion in court, such as the regulations related to land acquisition by companies controlled by foreign nationals.

Still, the set of relevant obstacles to investment in Brazil are common to both domestic and foreign investors: regulatory uncertainty, a heavy tax burden and a complex tax code, poor infrastructure, high cost of services, and an outdated and often dysfunctional labor code. In this sense, Chinese investors on the whole will be dealing with the same problems as Brazilian firms and they will not abuse the country's hospitality by voicing their complaints and suggestions. To the contrary, they will be acting in the public interest.

At the same time, Chinese firms can differentiate themselves and play a very constructive role if they were to educate and help their suppliers, partners, and clients in Brazil to break into the increasingly crowded but highly dynamic Asian market – including by investing in China proper as a means to integrate Brazilian firms in value added regional chains. This would be perceived in the country as a significant positive contribution from the newcomers.

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The China-Brazil Business Council (CBBC) was founded in 2004. It is a non-profit bilateral institution comprised by two independent Sections, one in Brazil and the other in China. The CBBC seeks to promote dialogue among firms of both countries. The CBBC focuses its activities on structural issues in China-Brazil bilateral relations, aiming to improve the climate for business and investment between the two countries.

The CBBC's working agenda involves contact with authorities of both governments, periodic gatherings of Brazilian and Chinese firms, thematic seminars, mechanisms for sharing business experiences, and the dissemination of important business research.



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