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Rationale of Internationalisation of China's National Oil Companies: Seeking Natural Resources, Strategic Assets, or Sectoral Specialisation?

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Abstract:

The bulk of the existing literature emphasised that China's companies seek strategic assets (technology, brands, and access to markets) through internationalization in order to overcome late comers' comparative disadvantage, while some studies suggested that these firms sought natural resources to address China's rising oil imports. The third argument (which we coin the "sectoral strength" hypothesis) suggested that the up-stream firms in extractive business would seek natural resources, whereas down-stream one would seek strategic assets. In this study we examine the rationale of main overseas investment deals ("going out") of China's two largest national oil companies during 2002-2010 which were also China's top two non-financial firms with the largest outward investment stocks during 2004-2010. We conclude that these deals can be best explained by the "sectoral specialisation" hypothesis supplemented with a consideration for strategic assets.

[Key words: assets-seeking, business, China, energy firms, internationalization, resources-seeking]

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Introduction: China's Soaring Profile in Outward Foreign Direct Investment

One of the most significant developments in global investment in the last several years has been the rapid ascendance of Chinese firms. Since its opening in the late 1970s China has made progressive, but impressive efforts to attract foreign direct investments (FDI) inflows. Moreover, since 1999 China has pursued a parallel strategy, which has been coined the 'go out' (or go global, *zouchuqu*) corporate strategy, whereby it has encouraged increased internationalization of Chinese firms.

The pace of international investment of Chinese firms has accelerated in the last decade. As illustrated in Figure 1, outward foreign direct investment (OFDI) flows from China grew from US\$ 2.7 billion in 2002 to almost US\$ 70 billion in 2010, making it the largest source of capital among developing countries and 5th in the world (MOFCOM, 2010). This marked increase in OFDI occurred against an overall global decline in FDI flows since the latter peaked in 2007. From 2008 when the financial crisis struck till 2010 developed economies even pulled back on their OFDI investments (UNCTAD 2011, 24; 2013, xvi, 4). In sharp contrast, China, thanks to its huge foreign reserve and its robust economic growth at home, has taken the opportunity to expand significantly its OFDI. By 2012 China's OFDI had reached US\$84 billion and as a result ranked third in the world in this arena, accounting for an impressive 6% of the world total US\$1.39 trillion OFDI (UNCTAD 2013, xv; xvi). Significantly, 60% of the respondents from the investment promotion agencies surveyed for *the World Investment Report 2013* regarded China as the most promising source of FDI in the world for the period of 2013-15, enabling China, instead of the US to claim this top spot (ibid, 21). China's stellar performance far outperformed the overall post-crisis decline or stagnation of OFDI of Russia, India and especially Brazil, the other members of the BRIC (ibid, 214-6). Meanwhile, the number of Chinese multinational enterprises (MNEs) on the Fortune Global 500 list expanded from zero in 1990 to 61 firms in 2010 (Peng, 2012).

[Figure 1 about here]

However, compared to outward investments from other major economies, China's share in the OFDI stock (i.e., cumulative total) is still comparably small (see Figure 2). According to *the World Investment Report (WIR) 2013*, the world's FDI stock reached US\$23.6 trillion by the end of 2012 (UNCTAD, 2013). China's OFDI stock in 2012 amounted to US\$476.1 billion and constituted only 2% of the world's total (Figure 2).

[Figure 2 about here]

Nevertheless, China's national oil companies (NOCs) are significant players in the world investment movement and world business. Leasing and business services, and banking were the two largest sources of Chinese OFDI stock in 2010, accounting for US\$97.2 billion and US\$55.3 billion, respectively (MOFCOM, 2010). Mining including oil and gas and other commodities exploration and mining activities accounted for US\$44.7 billion of investment stock (MOFCOM, 2010).

China's national oil companies (NOCs) "have emerged as significant players in global mergers and acquisitions in upstream oil and natural gas" (namely, exploration and extraction of oil and gas). For example, Chinese companies invested US\$18.2 billion on merger and acquisition (M&A) deals in 2009, accounting for 13% of the total US\$144 billion of global oil and gas acquisitions, and for 61% of total US\$30 billion of acquisitions by national oil companies (CNPC Research Institute of Economics and Technology, 2010; quoted from Jiang and Sinton 2011).

The prominent role of China's NOCs in global investment in mining is due to several reasons. First of all, China's largest NOCs are among the world's top firms. In 2012 Sinopec and CNPC were ranked 5th and 6th, respectively, among the Fortune 500 Firms-- the highest ranks among Chinese firms. Both Sinopec and CNPC (or PetroChina, the publicly-listed company and the most important branch of the latter) were the largest firms in China. Second, China has become the largest net oil importer since September 2013 (EIA 2014), largely thanks to the growing demand from the transport sector. Compared to coal of which China has rich deposits, oil consumption generates less pollution and causes less damage to the environment. However, China has a far smaller reserve as far as oil is concerned. In order to meet the rapidly growing oil consumption, China's oil and gas companies have been actively searching for resources abroad. China's demand for gas has increased drastically in the recent years and this trend seems to be continued in the coming decade (O'hara and Lai 2011).

Research Questions

This paper aims to address the question "*What is the rationale for China's national oil companies (NOCs) to invest abroad?*" against two contexts. The first is the speed at which Chinese firms have entered the world stage with respect to OFDI and the second is to add to the existing debates within the literature on the rationale for internationalization of firms from emerging economies and developing countries.

To explore this question we have conducted an analyse of the cases of foreign investment projects by Sinopec and CNPC over the last decade and tested the three following hypotheses derived from the literature on internationalization of firms--namely that: 1) China's companies seek strategic assets (technology, know-how, brands, and privileged access to markets) in order to overcome late comers' comparative disadvantage, 2) China's NOCs are primarily interested in natural resources to accommodate China's rising reliance on oil imports, and 3) the up-stream firms in the extractive business look for natural resources, whereas down-stream firms are mainly interested in strategic assets and efficiency (which we coin the "sectoral specialisation" hypothesis). We conclude that the "sectoral specialisation" hypothesis supplemented by a heavy consideration for strategic assets best explain these international deals.

Literature on Internationalization of Business and the Chinese Case

The existing literature offers useful insights as to the rationale of internationalization of business. Most of the mainstream international business theories are based on the experience of MNEs originating from developed

economies. They propose that internal strength is an important prerequisite for a firm's internationalization. Dunning's eclectic model (1981) suggested that a firm would engage in international production when it possessed certain ownership-specific advantages that were not possessed by other firms. Only when a firm possessed such an advantage in ownership could it increase profits by exploiting its assets in overseas markets. The choice of host country location was believed to be determined by one or more of four types of motivations (Dunning, 1998; Dunning and Lundan, 2008, p. 67)- market-seeking, efficiency seeking, resource-seeking and strategic asset-seeking. The aim of market seeking was to protect the existing markets or to exploit new markets (Dunning and Lundan, 2008, p.70). Efficiency seeking referred to the scenarios where firms seek to exploit differences in the costs of production between countries (UNCTAD, 2007). Firms were regarded as seeking natural resources when they secured a continual supply of raw materials for companies' own industrial operations (Deng, 2004). Strategic assets-seeking firms endeavoured to augment their comparative advantages or to overcome their comparative disadvantages by investing abroad in strategic assets such as research and development capacity, technology, brands and reputation or distribution and production networks (Deng, 2012; Teece et. al., 1997). These strategic assets were "a set of complementary and specialized Resources and Capabilities which are scarce, durable, not easily traded, and difficult to imitate, may enable the firm to earn economic rents" (Amit and Schoemaker, 1993: 37).

Much of the literature which considers China's international business focuses on whether conventional theories can explain the motivations behind China's OFDI (e.g. Child and Rodrigues, 2005; Liu et. al., 2005; Luo and Tung, 2007; Buckley et. al., 2007). Two major issues have been highlighted by recent studies. First, firms from emerging economies like China have weak ownership advantages (Deng, 2009; Buckley et. al., 2008; Alcácer and Chung, 2007; Child and Rodrigues, 2005). Second, these firms often leap-frog certain stages of internationalisation process (Mathews, 2006). From this perspective Chinese companies go abroad not to exploit existing firm-specific advantages, but rather to explore and acquire strategic assets from developed market economies to overcome their latecomer disadvantages (Child and Rodrigues, 2005; Luo and Tung, 2007; Yiu et. al., 2007; March, 1991). Indeed, some researchers (Nolan, 2001) showed that the gap between top Chinese firms and their foreign counterparts was bigger than many had thought. For example, in 2012, PetroChina overtook Exxon as the world's biggest oil producer. However, in terms of total assets, profits and technological capacity, PetroChina is still behind the US giant (BBC News, 29 March 2012). Thus Chinese firms often resorted to a more aggressive approach to compensate for their competitive weakness and to gain sustainable competitive advantage (Cui and Jiang, 2010; Rui and Yip, 2008).

Several scholars (Ning, 2009; Morck et. al., 2008; Deng, 2007; Buckley et. al., 2007; Cai, 1999) provide evidence for the argument that Chinese firms, especially multinational corporations (MNCs) and large state-owned firms (SOEs) are driven by their need to catch up through acquiring strategic assets such as technological know-how and managerial expertise. Some widely acknowledged institutional advantages for Chinese MNCs and large SOEs in the existing research include government support through diplomatic assistances, supplies of financial resources, access to state-supported scientific and technical

research, benefits of state ownership (while not losing autonomy), and administrative regulations favouring outward investments.

Although there has been some doubt that the investment behaviour of Chinese firms has been significantly influenced by government policies, some researchers claim that Chinese OFDI was becoming more commercial and internal corporate motives are now playing a more important role (Chen, 2009; Houser, 2008; Hong and Sun, 2006). Since the exploration of new markets is the most common type of strategy for companies from developing economies (UNCTAD, 2007), several studies point to the rise of market-seeking Chinese firms (Buckley et. al, 2007, Taylor, 2002). These studies have concluded that on the one hand, market-seeking motives were the logical consequence of China's export oriented policy, especially in the 1980s and 1990s (Zhan, 1995), while on the other hand, growing competitive pressure from western MNEs in the Chinese domestic market and sliding profit margins gave incentive for Chinese companies to expand abroad, especially towards large markets (Deng, 2004; Cai, 1999).

With respect to natural resources, a number of existing studies have emphasised that China invests in resource rich countries to secure a stable supply of raw materials to support China's high economic growth (Leung, et. al., 2011; Ellings and Friedberg 2006; Taylor, 2006). Indeed, China's increased demand for oil and gas reflects not only the country's impressive economic performance, but also its lack of domestic reserves with China holding only 1% of oil and 1.5% of gas total world reserves (BP, 2011). Some studies indicated that the resource-seeking OFDI of Chinese NOCs is directly associated with the government's policy of national energy security (Salidjanova, 2011; Frynas and Paolo, 2007). However, there are no conclusive findings on the significance of natural resources as a primary factor for Chinese NOCs to invest abroad. While Globerman and Shapiro (2009) conclude that securing resources is a relatively unimportant motive for Chinese OFDI, several researchers (e.g. Buckley et. al., 2007; Kolstad and Wiig, 2009) suggest that China's OFDI has concentrated on natural resources in countries with a weak institutional environment. In addition, Amighinia et al (2013) have suggested that state owned enterprises SOEs are not only more risk taking and attracted to natural resources, but are also driven by the strategic needs of their home country when investing abroad, while private enterprises are more risk averse and more motivated by tapping into the markets in their overseas investment. There is a growing body of literature, for example, a study by Luet al (2014), that emphasises the role of institutions in the developed host countries that attracts China's OFDI. However, this argument seems to be less relevant for our study, as the previous study by Armighinia et al (2013) and our dataset suggest, China's large state energy firms have made a huge amount of investment in developing countries which lack good institutions.

Arguably, comparatively less has been written on efficiency-seeking motives in Chinese companies. According to UNCTAD report (2007), efficiency-seeking outward investments were relatively unimportant for Chinese firms because of low costs in their domestic market. Several scholars proposed that factors such as increasing labour costs, infrastructure bottlenecks and power shortage might have resulted in the growing role of efficiency-seeking motives in China's OFDI in recent years (Ning and Sutherland, 2012).

A number of studies have also emphasised the rapid expansion of outward investment from China into the world's tax havens (Ning and Sutherland, 2012). The preferred tax havens for Chinese investors are Hong Kong, the Cayman Islands and the British Virgin Islands. By 2010, these destinations accounted for almost 76% of total Chinese OFDI stock (MOFCOM, 2010). Although much of this investment was considered exclusively 'round-tripping'- assets recycled through tax havens for the purpose of obtaining preferential treatment as foreign capital (UNCTAD, 2007; Luo and Tung 2007), a number of studies have also noted the importance of raising capital on foreign capital markets in such havens (Xiao, 2004). In our dataset we cannot find much information on investment of NOCs or acquisitions in these tax havens. We thus decide not to pursue this line of inquiry.

Hypotheses: Strategic Assets, Natural Resources, and Sectoral Strength

Given the contending views on business internationalization, we believe that a careful analysis of overseas investment projects by China's NOCs can help shed light on the relevance of these theories for China. To explore this issue we analysed the main reasons for OFDI projects over the period 2000-2010 which coincides with a period of increased activity by the NOCs.

As the literature suggests, there are four main reasons for internationalization of a business—seeking strategic assets, markets, efficiency and natural resources (Dunning, 1998; Dunning and Lundan, 2008, p. 67). By *strategic assets* we mean *technology, research and development capacity, good management practice, brand names and reputation, access to international markets, or distribution and production networks*. Strategic assets seeking in this study thus incorporates the assets- and market-seeking explanations. In particular we focused on the explanations of strategic assets seeking versus natural resources seeking. We focus our analyses on these two explanations, though we still take note of other motivations such as efficiency. We do so for the following reasons.

As stated, the bulk of the literature on the internationalization of Chinese business converges toward the argument that the Chinese seek strategic assets and market access especially from developed market economies. It suggests that Chinese firms do so because they have a particularly strong desire to overcome their disadvantages of being late-comers, close a large gap with their foreign counterparts (Nolan, 2001) and catch up with internationally leading firms (Child and Rodrigues, 2005; Luo and Tung, 2007; Yiu et. al., 2007; March, 1991).

In contrast, most of the studies generally hold that given China's low production costs the role of efficiency seeking plays a minor role in the internationalization of Chinese business (UNCTAD 2007; Buckley et. al., 2007). Despite changes in recent years low production costs remained a key competitive edge in the 2000s, the period this study focuses on. Hence we develop the following strategic assets seeking hypothesis— 1. *In concluding international deals, China's national oil companies primarily seek strategic assets.*

2. The apparent alternative hypothesis is the natural resources seeking explanation. This hypothesis arises from major developments in recent years where over half of China's oil consumption has to be imported and where this share has also been increasing. Thus it is imperative for China's oil firms to

secure supplies of natural resources. This hypothesis is also drawn from numerous existing studies on China's overseas investment in resource rich countries (Leung, et. al., 2011; Ellings and Friedberg 2006; Taylor, 2006). This hypothesis is as follows-- *In concluding international deals China's national oil companies primarily seek natural resources (in this case, oil and gas resources).*

3. According to the UNCTD report, there may be a potentially third alternative hypothesis in addition to strategic assets seeking and natural resources seeking hypotheses (UNCTD 2007, 99-126). This hypothesis suggests that China's NOCs may seek strategic assets or natural resources depending on where are they located in the chain of energy production and whether they are up-stream or down-stream. This hypothesis is as follows— *In their international deals an up-stream NOC will seek natural resources, whereas a down-stream one would seek strategic assets.* Obviously, for a firm whose business is mainly up-stream (extraction and exploration of oil and gas), it makes economic senses for it to acquire mostly oil and gas resources in international deals. On the other hand, for a firm that is specialized in downstream business (i.e., refined oil products), it will naturally seek strategic assets such as technology including better refinery technology, brand names, or market accesses since these assets will help it to produce and sell downstream products. We coin the last hypothesis as the “sectoral specialisation” hypothesis. By definition, a primarily up-stream firm has strengths and an edge in competition in up-stream business whereas a primarily up-stream firm is relatively strong and possesses considerable skills in up-stream business. Thus far these three hypotheses have not been tested using the overseas projects of China's NOCs. Nor has the third hypothesis been carefully and empirically tested in the case of internationalization of China's firms.

Data and Methods

We assessed the relevance of the three hypotheses against the overseas investment projects that CNPC and the Sinopec embarked upon between 2002 and 2010. These two firms are selected as they are China's largest players in overseas energy deals. In fact, the Sinopec and CNPC were China's top two non-financial firms in 2010 in terms of OFDI stocks and foreign revenue (MOFCOM 2010). In addition, each of them dominates the up-stream (CNPC) and down-stream (Sinopec) oil and gas business in China. Therefore, their international deals can shed a good light on the validity of these three hypotheses.

The list of the international deals of the two NOCs initially came from an Information Paper on Overseas Investment by the International Energy Agency (IEA) in 2011 (Jiang and Sinton 2011). Tables 1 and 2 are a list of Chinese foreign oil and gas acquisition since 2002. The list included 11 deals by CNPC (Table 1) and 14 deals by Sinopec (Table 2). According to Jiang and Sinton 2011, the sources were as follows—1) FACTS Global Energy (2010), FACTS Global Energy (2010), personal communication with analyst, April; 2) Interfax; 3) company websites; 4) CNPC Research Institute of Economics and Technology (2010), Report on Domestic and Overseas Oil and Gas Industry Development in 2009, Beijing: CNPC Research Institute of Economics and Technology; 5) IEA research; 6) Chinese media reports (Jing and Sinton 2011).

However, details of these international investments were very brief and did not provide an in depth analysis of the rationale of the two companies in concluding these deals. Thus in order to ascertain the primary reason for the deal we collected information for each deal through Factiva, a database that compiles hundreds of news reports and sources. The relevant information we gathered on each deal includes the deal date, parties of the deal, the amount of investment by CNPC or Sinopec, the primary reason for CNPC or Sinopec to conclude the deal, and a description of the project. In a few cases the collected data either point to the final outcome of the deals such as their termination, or suggest new deals that were not included in the Jiang and Sinton's (2011) paper. The data provide useful information and allowed us to determine what motivated the NOCs to seal a given deal. A summary of the main issues is for each of the deals concluded over the period is provided in Tables 1 and 2. We refer to our dataset as the Dataset on Overseas Investment of China's NOCs. Our findings are reported below.

[Table 1 about here]

[Table 2 about here]

Data Analyses and Findings--Internationalization of China's CNPC and Sinopec

China's NOCs started their international operations as early as the early 1990s, long before the Chinese government's call for them to "go out". CNPC invested in Sudan, Peru and Kazakhstan and opened offices for trading and finance in London and New York (Jiang and Sinton 2011, 10). Since the 2000s China's NOCs have intensified their international activities in the wake of China's entry into the World Trade Organisation (WTO) and in response to the government's call for 'going out'. As stated, our data base starts from 2002. For CNPC its overseas investment occurred in two main peaks, 2005 and 2009 (Figure 3). International investment by Sinopec followed a somewhat different trajectory with investments growing strongly from 2007 onwards (Figure 4).

[Figure 3 about here]

[Figure 4 about here]

When comparing the relative magnitudes of investment of both giants, Sinopec clearly outweighed CNPC. During 2002-10 Sinopec's total OFDI amounted to US\$25.4 billion, compared to US\$13.6 billion for CNPC. The annual average of OFDI for Sinopec reached US\$2.8 billion, but only US\$1.5 billion for CNPC (Figure 4).

Next we analyze each of the cases of OFDI by CNPC and Sinopec and distil the relevant information in our database concerning the primary reasons for the NOCs to conclude a particular deal.

On the basis of the analysis we classify each of these deals by CNPC and Sinopec by the primary reason (and in some cases, the secondary reason) into strategic assets seeking, natural resources seeking, or efficiency seeking. The results are presented in Tables 1 and 2. The summary information on these deals (such as the year, the amount of each deal and their location) by CNPC is

presented in Table 3 and Figure 5. The same thing is done for Sinopec and the results are seen in Table 4 and Figure 6.

[Table 3 about here]
[Figure 5 about here]
[Table 4 about here]
[Figure 6 about here]

The pattern for overseas investment of CNPC is somewhat complex, but can be clearly understood at a closer look. There were seven assets-seeking investment projects, compared to five resources-seeking projects. However, the amount of investment has far greater importance than the number of projects. In this regard, resource-seeking investments clearly exceeded assets-seeking investment, being \$7.7 billion for the former compared to \$5.9 billion for the latter (Table 3). Out of the total investment of \$13.6 billion by CNPC 56.6% was natural resources-seeking (Figure 5).

The situation for Sinopec is different, and in fact, the opposite. During 2002-10 there were 13 investment projects primarily aimed at valuable assets, while two projects were seeking natural resources. In terms of the amount of investment the pattern was even clearer with \$25.1 billion of investment primarily devoted to pursuit of valuable assets, dwarfing the meagre \$0.4 billion investment primarily aiming at natural resources. (Figure 6).

Discussion

The next issue we will investigate is the validity of the three hypotheses. One quick approach is to examine the primary reason for investment by combining that of CNPC with that of Sinopec. Out of \$39 billion total investment by CNPC and Sinopec, 79.3% was aimed primarily at assets seeking compared to 20.7% natural resources seeking (Table 5). Thus, taken together it appears that the asset seeking hypothesis has the most mileage in explaining the investment patterns of China's biggest NOCs with both going after valuable and strategic assets in their OFDI such as technologies, brands, and importantly access to foreign markets.

[Table 5 about here]

For example, in May 2009 PetroChina, the main branch of CNPC, agreed to pay US\$1 billion for a 45.5% stake in the Singapore Petroleum Company (SPC) increasing its stake to 70.1% in July the same year. This was the first major move by CNPC into an international downstream business and allowed it to gain a strategic foothold in Asia's largest oil trading centre. The SPC investment not only allowed CNPC to build on its existing position in Singapore and gain access to refining capacity and other infrastructure, but also provided CNPC an opportunity to exploit new options in supplying its distribution network in southern China, where it had no major refining capacity at that time. Significantly it also allowed CNPC to use SPC as a vehicle for other international deals, thereby diluting the political risks. In another massive deal which took place about the same time, Sinopec International Petroleum Exploration and

Production (SIPC), a branch of Sinopec, bought Swiss oil explorer Addax Petroleum Corp for \$7.24 billion, making it China's biggest overseas acquisition up to that time. Addax had a number of attractive assets in the Gulf of Guinea, with promising acreage offshore Nigeria, Gabon and Cameroon. Through this deal Sinopec hoped to build a stronger presence and operations in West Africa and Iraq, accelerating its international growth strategy. It also tried to increase the company's overseas production and increase the proportion of crude it refined from its own assets. The deal also enabled Sinopec to diversify its foreign assets holdings away from 'financial' assets such as foreign government securities into more 'real' assets such as energy and natural resource companies. Thus the primary reason for the deal was seeking strategic assets, followed by seeking natural resources.

However, this quick assessment of the first two hypotheses is rough. Our analysis can be refined through a close examination of the third hypothesis (the "sectoral specialisation" hypothesis). To do this we need to know whether CNPC and Sinopec operate mainly in upstream or downstream sectors.

It is generally believed that CNPC traditionally specialises in the extraction of oil and gas, while Sinopec focuses more on downstream business such as the distribution and sale of oil and gas products. Energy production and processing data from the two NOCs suggest that this remains true (Table 6). In 2010 CNPC produced far more crude oil than Sinopec at home (105.41 million metric tonnes or mmt for CNPC versus 42.56mmt for Sinopec). However, Sinopec outstripped CNPC in terms of processing crude oil (213 mmt versus 160 mmt) and in producing refined domestic oil product (140 mmt versus 102 mmt). Apparently and in addition, about 45 mmt of Sinopec's refined oil product was produced outside China (Table 6 and its sources).

[Table 6 about here]

According to the third (or the "sectoral specialisation") hypothesis we should expect Sinopec to invest more overseas in strategic assets which relate primarily to its downstream business and expect CNPC to invest more in natural resources which are associated more closely with its upstream business. From what we have seen (Tables 3-6 and Figures 5-6), this is indeed the case. CNPC, which is primarily an upstream energy firm, focused mainly on natural resources seeking projects in investing abroad. In contrast, Sinopec, a predominantly downstream energy firm, invested overwhelmingly in strategic assets in undertaking international projects. Therefore, the "sectoral specialisation" hypothesis is supported by the evidence.

Nevertheless, there is a subtly heavy consideration for strategic assets for both firms in investing abroad. Take CNPC for an example, as Figure 7 illustrates and as explained above, in general CNPC is driven by a consideration for natural resources in its international deals. However, the significance of natural resources to its OFDI portfolio had been in decline since peaking in 2005, and rebounded modestly during 2006-2010. In contrast, the significance of strategic-assets to its OFDI had been increasing since 2003 and surpassed that of natural resources during 2006-2009. It thus appears that even though CNPC is primarily interested in natural resources when investing abroad the significance of strategic assets had loomed large in the backdrop and had increased since 2002

(except for a downturn in 2010). Therefore, the patterns of overseas investment by Sinopec and CNPC can be best explained by the “sectoral specialisation” hypothesis which is supplemented by an argument for strategic assets.

[Figure 7 about here]

Implications for Theory and Practice

This study has a number of implications for the conventional perception of the motivations of China’s NOCs and for theories on internationalization business. The conventional view would regard natural resources seeking as a key factor that motivates China’s NOCs to invest abroad. The findings of this study suggest that this is not the case and that strategic assets seeking has played a more important role.

Much of the literature on internationalization business would suggest that China’s NOCs endeavor to overcome the late comers’ disadvantages by obtaining better technologies, more established brands, and accesses to international markets. Indeed, assets seeking has apparently been a significant factor that drives in international investment of major firms from the emerging markets like China. However, in doing so firms will also play to their own advantages and invest in areas where they have already had significant strengths in a specific sector and apparently aim to reduce risks in investing away from their home countries. Firms apparently still play to their strength in given sectors (as seen from their dominant business in upstream versus downstream sectors) and may aim to reduce risks in new international projects as well. While giving a very serious consideration of strategic assets, upstream firms will pay more attention to natural resources whereas downstream firms may focus predominantly on strategic assets. In the case of China’s two major NOCs, one that is specialized in downstream business has chosen to invest more in downstream projects that are clearly associated with strategic assets, and the other, that has a traditional strength in upstream business, has preferred to invest primarily in upstream business, which is closely related to natural resources. Based on these findings we see merits in exercising caution when attempting any generalised arguments about a single motivation in internationalization of firms from developing countries. There is also merit in considering calculated multiple motivations reflecting firms’ strength in a given major sector and the needs to overcome their late-comer disadvantages through acquiring strategic assets. The findings of this study can help to shed light on the dynamics and the logic of growing and massive investment of these Chinese corporate giants around the world, and probably investment of firms from other emerging markets as well.

Conclusions

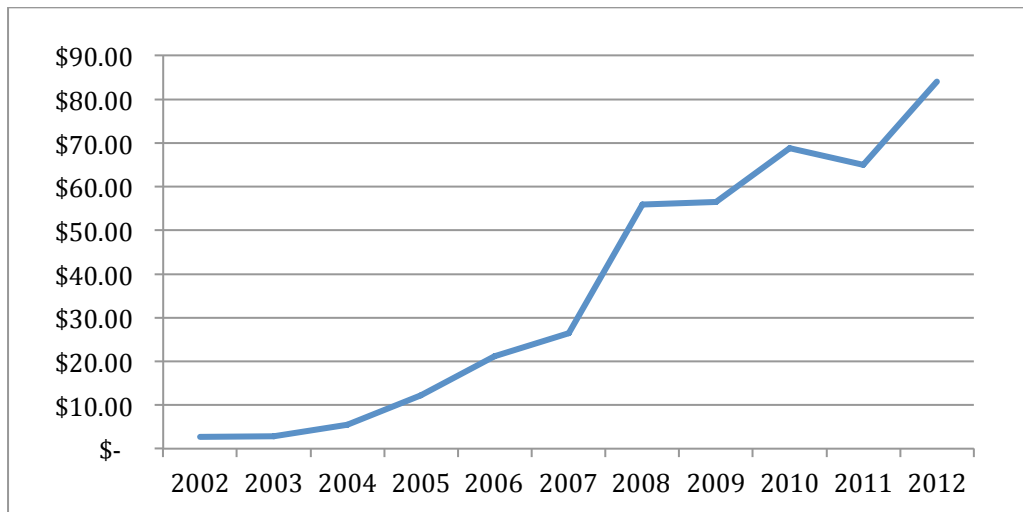
In recent decades China has emerged as an increasingly important player in global investment outflows. Its NOCs in particular are among the most active investors in the global extractive business. Meanwhile, as stated in the aforementioned review of literature, there have been discussions and debates among scholars on internationalization of business in general and that in China in particular.

In this study we set out to test three hypotheses regarding the OFDI of China's NOCs—the natural resources seeking hypothesis, the strategic resources seeking hypothesis, and the “sectorial specialisation” hypothesis. We examine the overseas investment deals by the two largest Chinese NOCs, namely, CNPC and Sinopec during 2002-10 and try to find the primary reason for each of these deals. Overall, we find that in investing outside China CNPC was more interested in natural resources whereas Sinopec was overwhelmingly focusing on securing strategic assets. If we take into account the total investment from both NOCs, the majority of the investment poured into assets-seeking projects.

On the face value, or in terms of the breakdown of total investment by the two NOCs, the assets-seeking hypothesis seems to be supported. This is so as nearly 80% of the investment was primarily for obtaining strategic assets, such as technology, brand, and access to foreign markets. However, at a closer look at the investment rationale of individual NOC and their position in upstream and downstream business, it is clear that the “sectoral strength” hypothesis stands out the best in our test using the collected data analysis. It emerges from our analysis that CNPC, a main upstream company, was more interested in getting natural resources in its overseas investment. On the other hand, Sinopec, an oil and gas company specialised more in downstream business than upstream, single-mindedly sought strategic assets in its investment projects abroad. Each NOC apparently wanted to augment their economic advantage and existing sectoral strengths. They might also want to invest in areas where they knew the best to avoid unnecessary risks. Therefore, the “sectorial specialisation” hypothesis best explains the OFDI of CNPC and Sinopec and the assets seeking hypothesis receives some support simply because the Sinopec's assets-seeking investment overwhelmed CNPC's resources-seeking-dominant investment outflows.

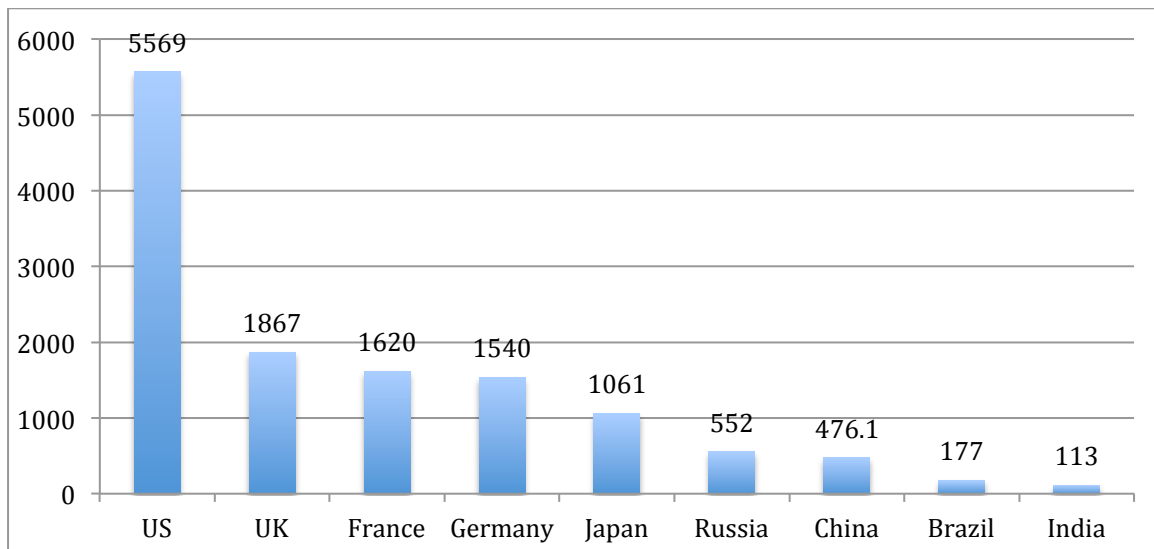
Our study has important implications for the global energy business world with the findings indicating that China's NOCs have actively embarked upon investments abroad by prudently tapping on their existing strength in the specific downstream or upstream sectors while increasingly focusing on strategic assets such as technology and market accesses. Backed by huge foreign reserves and the largest energy market in the world, this shrewd investment strategy may well enable China's NOCs, late-comers from an emerging market, to play a quick catch-up game against the existing prominent Western energy conglomerates in the global energy business. In the coming decades China's NOCs may become strong rivals in certain sectors and regions, thereby intensifying corporate competition in the world energy business.

Figure 1. China's Outward Direct Investment Flows, 2002-2012 (US\$ billions)



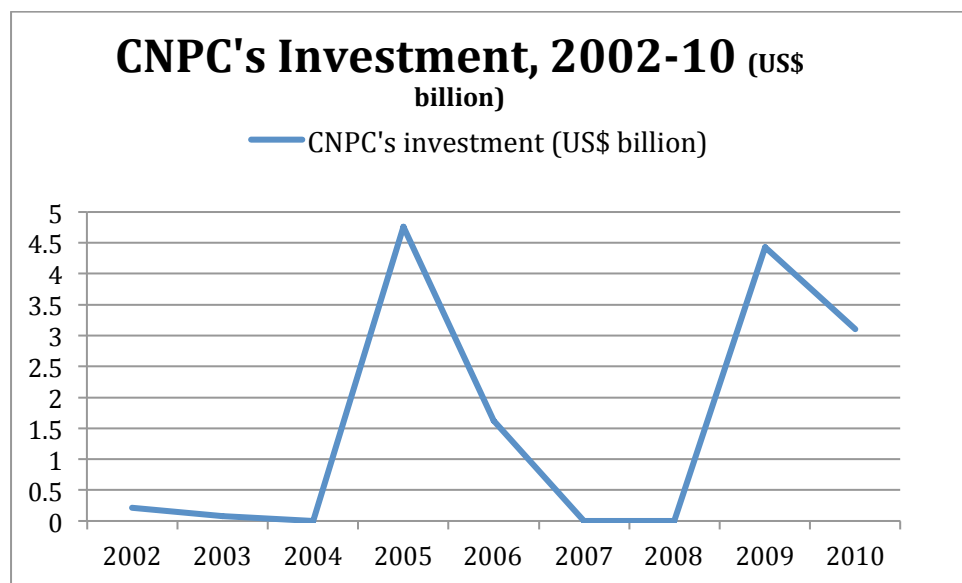
Source: MOFCOM, *2010 Statistical Bulletin of China's Outward Foreign Direct Investment*, posted at <http://images.mofcom.gov.cn/hzs/accessory/201109/1316069658609.pdf>, accessed 4 May 2014. Data of 2011-2 came from UNCTAD, *World Investment Report, 2012, 2013*.

Figure 2. OFDI Stock of Major Economies (US\$ Billion), 2012



Sources: Data for OFDI stock up to 2010 come from MOFCOM, *2010 Statistical Bulletin of China's Outward Foreign Direct Investment*, posted at <http://images.mofcom.gov.cn/hzs/accessory/201109/1316069658609.pdf>, accessed 4 May 2014. Data of 2011-2 came from UNCTAD, *World Investment Report, 2013*.

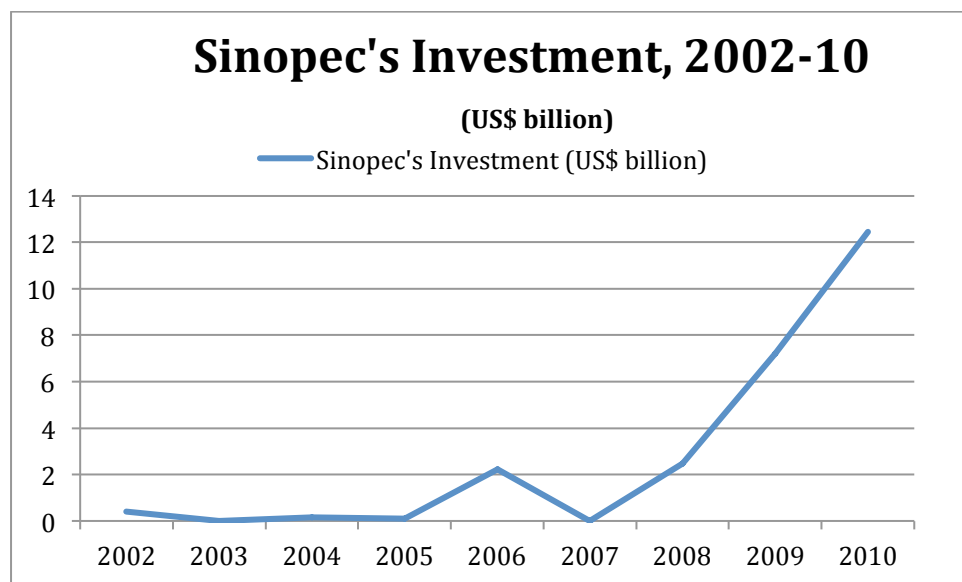
Figure 3: Total outward investment flows from CNPC between 2002 and 2010 (in US\$ billion)



Source: Dataset on Overseas Investment of China's NOCs.

Notes: One investment (investment in Qatar in 2010) is excluded due to lack of data leaving 11 projects in the figure.

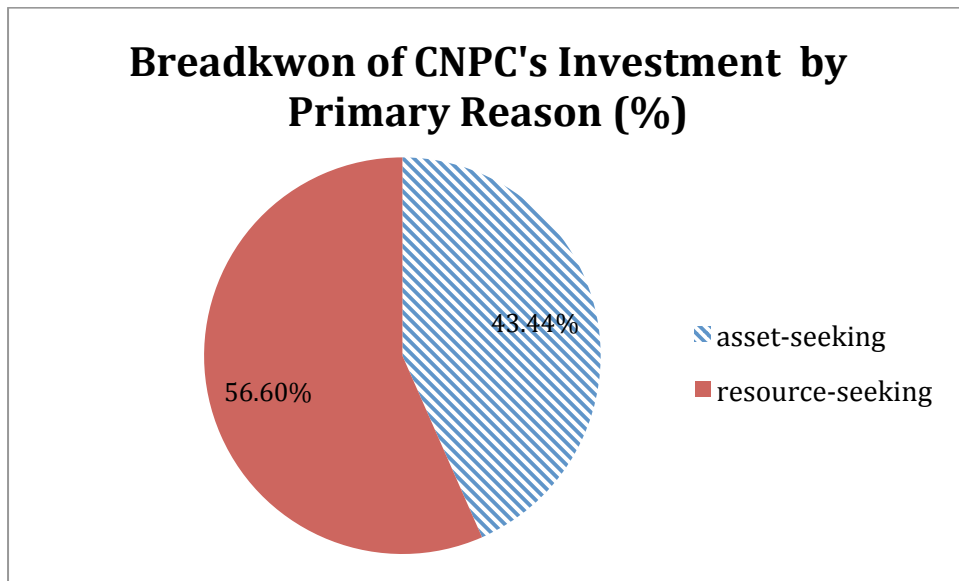
Figure 4: Total outward investment flows from Sinopec between 2002 and 2010 (in US\$ billion)



Source: Dataset on Overseas Investment of China's NOCs.

Notes: Three investments are excluded-- one was cancelled; for the other two, we could not find data (2004 Angola and 2004 Saudi Arabia). In the case of the deal with Russia in 2006, we calculated the amount paid by Sinopec after the company reassigned 51% to Rosneft.

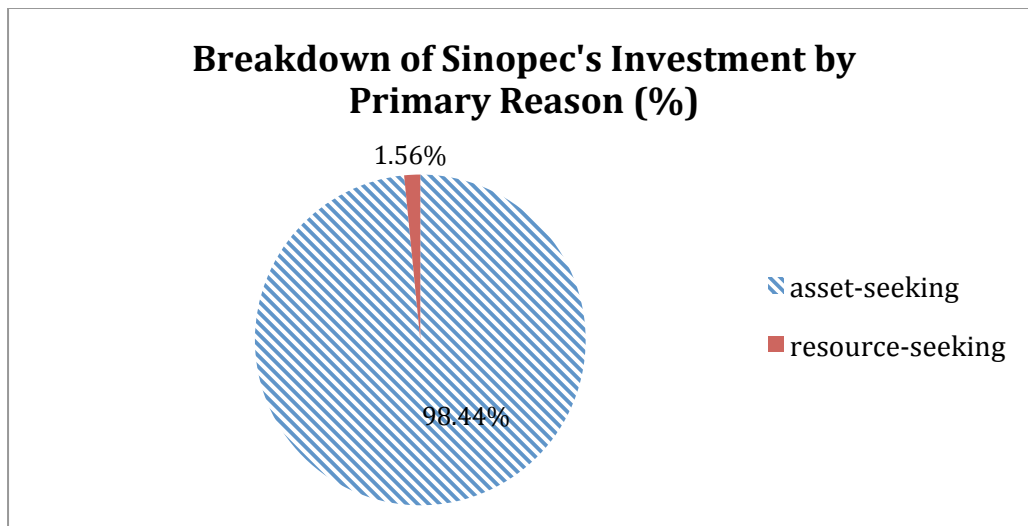
Figure 5. Breakdown of CNPC's International Investment of 2002-10 by the Primary Reason.



Source: Dataset on Overseas Investment of China's NOCs.

Note: In case of resource-seeking, one project (Qatar in 2010) is excluded due to a lack of investment data. So 11 deals are included in the data.

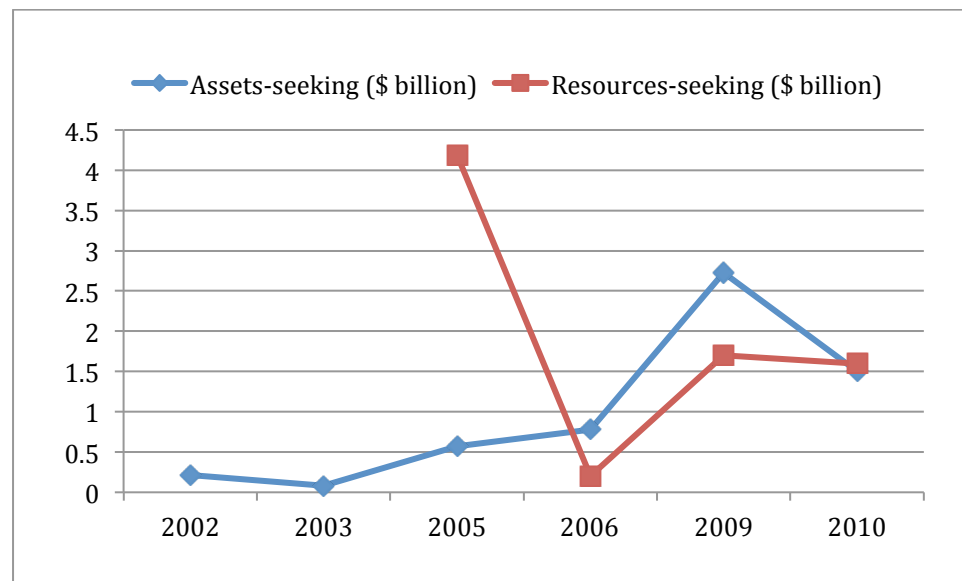
Figure 6. Breakdown of Overseas Investment by Sinopec during 2002-10 by Primary Reason



Sources: Dataset on Overseas Investment of China's NOCs.

Note: Thirteen projects were included in the data. Out of the 15 projects two projects are excluded due to a lack of investment data. They were investment in Angola in 2004 with the aim for asset-seeking and the deal in Saudi Arabia in 2004 whose aim was unclear.

Figure 7. Resources-Seeking Deals Versus Assets-Seeking Deals by CNPC over the Years



Source: Dataset on Overseas Investment of China's NOCs.

Table 1. International Investment Deals by CNPC, 2002-2010.

Deal number	Deal Date, Parties, Summary of the Project Amount and Main Reasons	Description of the Rationale of Project
1	In April 2002 PetroChina bought stakes in Devon Energy Corporation in Indonesia for \$0.216 billion. Primary reason: Assets-seeking (technology and market).	President Huang Yan of PetroChina Co. Ltd, the publicly-listed arm of CNPC, said that the small deal allowed the company to begin building its foreign operations and that PetroChina was pursuing acquisitions in technologies and geographic areas where it could compete aggressively.
2	In April 2003 PetroChina Intl. bought 50 percent share in Amerada Hess Indonesia Holdings in Indonesia for \$0.082 billion. Primary reason: Asset-seeking (market); secondary reason: resources seeking.	PetroChina sought to increase its foreign business holdings. With the acquisition PetroChina gained a 45 percent stake in the Jabung Block Production Sharing Contract (JBPSC) that would supply Singapore with natural gas for 20 years beginning in 2003.
3	In September 2005 CNPC purchased all common shares in PetroKazakhstan in Kazakhstan. \$4.18 billion. Primary reason: Resources-seeking; secondary reason: assets-seeking.	This project primarily allowed CNPC to access PetroKazakhstan's proven and suspected oil and natural gas reserves. It also fitted in well with CNPC's other investments in the Central Asian country.
4	In December 2005 CNPC and India's Oil and Natural Gas Co. (ONGC), each paying for \$0.575 billion, won the joint bid for Petro-Canada's 38 percent share in the Al Furat oil and natural fields, located in Syria. Primary reason: Assets-seeking (technology, brands, and access to markets).	Chinese national oil companies had increased their pursuit of strategic assets. The partners in the deal might be collaborating to reduce acquisition costs and share risks.
5	In 2006 CNPC acquired all of EnCana's Equity in Block H in Chad at a price of \$0.202 billion. Primary reason: Resources-seeking; secondary reason: Assets-seeking (market).	CNPC proceeded to discover significant and new oil reserves that would expand its reserves. The EnCana deal might also allow China to create a significant presence in Chad's oil region.
6	In April 2009 with equal shares CNPC (CNPC Exploration and Development Company Ltd) and	The project's oil could be transported to China, providing CNPC with a stable oil supply.

	KazMunayGas, Kazakhstan's state oil company, bought Kazakhstan-based MangistauMunaiGaz. Half of the price of \$3.3 billion came from CNPC. Primary reason: Resources-seeking.	The company's primary goal was providing a sustained oil supply for the new pipeline.
7	In June 2009 PetroChina bought a 45.5 percent share of Singapore Petroleum Co. for US\$1 billion. Primary reason: Assets-seeking (market); secondary reason: efficiency seeking.	The deal could allow PetroChina to increase its presence in Singapore. PetroChina would significantly increase its impact on contract prices in a major Asian trading centre.
8	In August 2009 PetroChina bought a 60 percent stake in the Mackay River and Dover oil sands projects of Calgary-based Athabasca Oil Sands Corp. in Canada for \$1.73 billion. Athabasca will operate the project. Primary reason: Assets-seeking (managerial knowhow).	Bill Gallacher, Athabasca's chairman, said PetroChina was attracted by the company's superior management.
9	In March 2010 PetroChina and Shell Oil Co. in Australia jointly paid \$3.13 billion, each buying a 50 percent stake in Arrow Energy. Primary reason: Resources-seeking; secondary reasons: assets-seeking (technology and market) and efficiency seeking.	With the deal PetroChina and Shell would own 37 percent of Australia's coal seam gas reserves. They would supply liquefied natural gas to Asian countries, primarily China, expanding PetroChina's sources of natural resources. It would merge Shell Oil's knowledge of liquefied natural gas and regional natural gas market access with PetroChina's knowledge of operations.
10	In May 2010 CNPC and Shell Oil Co. reached a deal with Qatar Petroleum to search for natural gas in Qatar. Primary reason: Resources-seeking; secondary reason: Assets-seeking (technology).	CNPC owned a 25 percent share of the joint venture in Qatar's Block D region and gain another source of natural gas for China's energy needs. The project would provide PetroChina with technological experience.
11	In May 2010 CNPC bought a 35 percent share of Shell Oil's Syria Shell Petroleum Development subsidiary for \$1.5 billion. Primary reason: Assets-seeking (market, technology, material know-how). Secondary reason: Resources seeking.	The deal could allow CNPC to increase its upstream business presence in Syria, provide additional energy resources for the company's portfolio, and give China another source of energy supplies. It also could allow CNPC to become globally integrated and learn from Shell Oil's operational knowledge.

Source: Dataset on Overseas Investment of China's NOCs.

Table 2. International Investment Deals by Sinopec, 2002-2010

Project number	Deal Date, Parties, Amount and Main Reasons	Description of the Project and Its Rationale
12	In October 2002. Sinopec Group won a contract of \$0.394 billion for increasing the crude oil production of the Zaraitine field in Algeria. Primary Reason: Resources-seeking; secondary reason: Assets-seeking.	The project would increase Sinopec Group's crude oil production volume and would also provide Sinopec with technical experience with injecting gas and water underground for increasing the oil yield rate.
13	In December 2003 Sinopec (Shengli Oilfield) bought an interest in three oil blocks located in Kazakhstan's Caspian Sea region for \$2.3 million. Primary reason: Resources-seeking.	Along with Big Sky Energy Kazakhstan Ltd., Sinopec would pursue oil exploration and development in the region. Shengli is the most experienced and largest of Sinopec's upstream subsidiaries.
14	In August 2004 Sinopec secured an upstream project in Kazakhstan by buying U.S.-based First International Oil Corp for \$0.153 billion. Primary reasons: Assets-seeking.	The purchase allowed Sinopec to control numerous onshore oil exploration blocks in Kazakhstan along with Atyrau province's onshore Sazankurak oil field. As both oil fields had reached their production plateaus the deal was an effort to obtain strategic assets.
15	In December 2004 Sinopec and Sonangol	Most importantly, Sinopec reached a deal with

	<p>created a joint venture for developing the offshore oilfield Block 18 in Angola, which was operated by British Petroleum.</p> <p>Primary Reason: Assets-seeking (market and technology); secondary Reason: resources-seeking.</p>	<p>Angola State Petroleum Company to jointly invest \$3 billion in building the largest oil refinery in southern Africa (SA). Sinopec could also acquire the stakes and technology in Block 18 from British Petroleum. Sinopec Group would increase its foreign oil production by 5 million tonnes annually by 2007.</p>
16	<p>In May 2005 SinoCanada and SynencoEnergy, Canada purchased a 40 percent and 60 percent shares, respectively, in northeastern Alberta's Northern Lights oil sands project. SinoCanada paid \$0.105 billion.</p> <p>Primary Reason: Assets-seeking (technology); Secondary Reasons: resources-seeking; efficiency-seeking.</p>	<p>Most importantly, the joint venture would use the skills and technology of both Canada and China to produce an environmentally sound, innovative and energy efficient project. The purchase also allowed Sinopec to expand its energy supplies and efficiency.</p>
17	<p>In February 2006 EnCana sold its Ecuadorian oil and pipeline interests to Andes Petroleum (controlled by CNPC and Sinopec) for a \$1.42 billion.</p> <p>Primary reason: Assets-seeking (market); secondary reason: resources-seeking.</p>	<p>The purchase allowed Andes Petroleum and its co-owners Sinopec to boost production and market share as well as to export to Pacific Rim markets.</p>
18	<p>In June 2006 Sinopec won the bidding to buy a 96.9 percent share of the Udmurtneft oil field from TNK-BP. The company then reassigned 51 percent of the Udmurtneft shares to Rosneft. The deal was \$3.5 billion.</p> <p>Primary reason: Assets-seeking (market); secondary reason: resources-seeking.</p>	<p>The joint venture allowed Sinopec to access international markets including Russian oil and natural gas production and feed its domestic oil supply.</p>
19	<p>In August 2006 Sinopec International and India's Oil and Natural Gas Corp. Ltd. bought Texas-based Omimex Resources Inc.'s Colombian oil assets for \$0.8 billion (jointly).</p> <p>Primary Reason: Assets-seeking (market).</p>	<p>The joint venture spread the risk of doing business in countries with modest potential growth and unstable business environments. It also enabled Sinopec to expand in the region.</p>
20	<p>In March 2008 Sinopec Group bought a 60 percent equity interest in Australia's AED Oil Ltd for \$0.561 billion.</p> <p>Primary Reason: Assets-seeking (market).</p>	<p>The joint venture expanded both companies' interests in the world energy market. Both planned to cooperate in pursuing other similar projects in the region.</p>
21	<p>In September 2008 Sinopec paid Calgary-based Tanganyika Oil Co \$1.9 billion for the latter's natural gas and oil assets in Syria.</p> <p>Primary Reason: Assets-seeking (technology and market); Secondary Reason: efficiency-seeking.</p>	<p>Energy market analysts noted Tanganyika's enhanced oil recovery technology. This technology would increase production at Sinopec's mature legacy fields. The deal would increase Sinopec refineries' supply of heavier crude oil from overseas to expand its supply sources and bring down costs.</p>
22	<p>In June 2009 Sinopec purchased Addax Petroleum Corp., a Swiss oil explorer, for \$7.24 billion.</p> <p>Primary Reason: Assets-seeking (market and diversified assets); secondary reason: resources-seeking and efficiency seeking.</p>	<p>Addax has interesting and enticing assets in Africa. The purchase allowed Sinopec to create a stronger presence in West Africa. It would also increase the company's foreign production.</p>
23	<p>In April 2010. Sinopec (SIPC) bought a 9.03 percent share of Syncrude, a Canadian oil sands company, from U.S.-based ConocoPhillips for \$4.675 billion.</p>	<p>The purchase allowed Sinopec to continue to move into the Canadian oil sands region. Sinopec wanted to make a profit from the purchase rather than shipping the crude oil to China. The company</p>

	Primary Reason: Assets-seeking (market and technology).	could benefit from the technical knowledge of other partners.
24	In October 2010. Sinopec bought a 40 percent share of the Spanish oil company Repsol's Brazilian subsidiary for \$7.1 billion. Primary Reason: Assets-seeking (market and managerial knowhow); secondary reason: resources-seeking.	The purchase allowed Sinopec to improve China's energy security, strengthen its energy sector position in Latin America, develop stronger operations and improve its portfolio of offshore oil and natural gas assets. The company also gained operating experience in Brazil.
25	In December 2010 Sinopec bought 18 percent of the Gendalo-Gehemdeep water natural gas project in Indonesia owned by Chevron for \$680 million. Primary Reason: Assets-seeking (technology, market and managerial knowhow).	The purchase permitted Sinopec to improve the company's technical deepwater drilling skills along with its management and production of complex projects. An estimated 25 percent of the project's natural gas would be sold in Indonesia's domestic market.

Source: Dataset on Overseas Investment of China's NOCs.

Table 3. Primary Reason for International Investment Deals of CNPC, 2002-10

Deals with assets-seeking as the primary reason		
Year	Amount (\$ billion)	Location
2002	0.216	Indonesia
2003	0.082	Indonesia
2005	0.575	Syria
2006	0.781	Ecuador
2009	over 1.0	Singapore
2009	1.73	Canada
2010	1.5	Syria
Subtotal	5.884	
Deals with resources-seeking as the primary reason		
Year	Amount (\$ billion)	Location
2005	4.18	Kazakhstan
2006	0.202	Chad
2009	1.7	Kazakhstan
2010	1.6	Australia
2010		Qatar
Subtotal	7.682	

Table 4. Primary Reason for International Investment Deals of Sinopec, 2002-10

Deals with assets-seeking as the primary reason		
Year	Amount (\$ billion)	Location
2004		Angola
2004		Saudi Arabia
2004	0.153	Kazakhstan
2005	0.105	Canada
2006	0.4	Columbia
2006	1.658	Russia
2006	0.639	Ecuador
2008	0.561	Australia
2008	1.9	Syria
2009	7.2	West Africa and Iraq
2010	4.675	Canada
2010	7.1	Brazil
2010	0.680	Indonesia
Subtotal	25.071	
Deals with resources-seeking as the primary reason		
2002	0.394	Algeria
2003	0.0023	Kazakhstan
Subtotal	0.3964	

Table 5. International Investment of CNPC and Sinopec by Primary Reason, 2002-10

Assets Seeking	
NOC	Amount (\$billion)
CNPC	5.884
Sinopec	25.071
Subtotal	30.955
Resources Seeking	
NOC	Amount (\$billion)
CNPC	7.682
Sinopec	0.396
Subtotal	8.078
Total (assets and resources seeking)	39.033
Breakdown of Total Investment (%)	
Assets Seeking	79.3
Resources Seeking	20.7

Table 6. Oil and Gas Production and Processing of CNPC and Sinopec, 2010

	CNPC	Sinopec
Oil production at home (mmt)	105.41	42.56
Gas production at home (bcm)	72.53	12.50
Crude oil processed (mmt)	160.08	212.97
Domestic refined products sales (mmt)	102.47	140.00

Sources: Annual Report of Sinopec Group 2010; CNPC- Annual Report 2011, posted at http://www.cnpc.com.cn/en/press/publications/annualrepore/2011/Operation_Highlights.htm?COLLCC=2452502946&.

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