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Chinese Economic Statecraft: A Comparative Study of China's Oil-backed Loans in Angola and Brazil

Ana Cristina ALVES

Abstract: Africa's and South America's rich endowments of resources and great need for infrastructure development make them perfect candidates for China's "infrastructure-for-resources" loans. Over the past decade, such an arrangement for pursuing China's resource-security goals overseas – namely, securing long-term supply contracts and accessing exploration rights – has proved more effective in Africa than in South America. This article discusses the reasons for this regional variation by providing a comparative study of China's economic statecraft in Angola and Brazil, focusing on the deployment of infrastructure-for-oil deals. It argues that the variation in China's energy-security outcomes (long-term supply and access to oil equity) in Angola and Brazil can be attributed mostly to fundamental differences between the institutional structures of each country's oil industry. Although this foreign policy instrument has worked well for the centralised structure encountered in Angola, it has been less suitable for the far more liberalised and regulated environment that characterises Brazil's oil sector.

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Keywords: Brazil, Angola, China, infrastructure-for-oil loans, institutional framework

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Introduction

China's rise on the world stage is a direct consequence of its massive economic growth over the past three decades. During this process, the regime's legitimacy gradually became bound to the sustainability of this pace of growth. As a consequence, economic development became central not only to domestic policy-making, but also to foreign policy formulation, overriding to a great extent ideological and political concerns. Throughout the 1990s, China became increasingly reliant on the importation of a number of strategic mineral resources to fuel its economic growth. As a result, the quest for these commodities overseas gradually surfaced as a major driver in Chinese foreign policy in the twenty-first century (Downs 2000 and 2006; Zweig and Bi 2005; Hsiao 2008). This critical concern has become particularly evident in China's interaction with developing regions, where these resources abound.

Over the past decade, the extension of credit lines for infrastructure has featured as a recurrent economic statecraft instrument (see Baldwin 1985; Mastanduno 2008) used by China in resource-rich developing countries. In addition to seeking markets for its construction companies and materials, China uses these credit lines to obtain long-term supply contracts and often favoured access to resources assets (Alves 2012a: 28–30). Although these energy-backed loans have attracted some scholarly attention, cross-regional comparative studies remain scarce. Mainstream literature (Downs 2011a; Brautigam 2009; Gallagher, Irwin, and Koleski 2012; Corkin 2011) demonstrates that these kind of loans tend to knit together the Chinese central government with state policy banks and national oil corporations (NOCs).

Oil-backed loans have been largely channelled through two state banks: the China Export-Import Bank (China Exim Bank) and the China Development Bank (CDB). As state banking institutions, they support China's policies domestically and abroad, including securing energy to fuel China's economic growth (Downs 2011b: 43). Both banks' financial packages are very competitive when compared with Western counterparts. In general, they put forward larger loans to fund infrastructure, energy and mining; they offer lower interest rates and longer repayment periods; their disbursement is much quicker than that of Western banks, and they do not impose policy conditions on the borrower. In return, however, they require procurement of goods and services from China. Despite the similarities of their financial packages, the two banks appear to play different roles and to follow different strategies. China Exim Bank

holds the exclusive mandate to extend concessional loans (low interest rates subsidised by China's Ministry of Commerce), which fall under the official development aid (ODA) category (Brautigam 2011). Most of its oil-backed loans, however, are extended on a more commercial basis (Brautigam 2011). CDB credit lines, on the other hand, offer exclusively market-based interest rates.

There also seems to be a growing geographical divide between China's two state banks. Whereas China Exim Bank loans are predominant in Africa, CDB credit lines dominate the South American landscape. China Exim Bank allegedly accounted for 92 per cent of Chinese infrastructure lending in Africa between 2001 and 2007 (Foster et al. 2008: 40); the total sum of its loans to the region (2001–2010) is estimated at 67.2 billion USD (Cohen 2011). Throughout most of the past decade, Chinese oil-backed loans were rare in South America, being mostly confined to Venezuela. This reality has, however, changed substantially in recent years, largely owing to the global financial crisis (see the Brazil case study). Benefitting from the new context, the CDB has rapidly assumed the lead in this region, having reportedly extended an estimated 45.6 billion USD worth of loans between 2008 and 2011 (Downs 2011b: 45).

Although not all the loans extended by China Exim Bank and the CDB to South America and Africa are oil-backed, the ones extended to energy-rich countries often are, and these constitute the bulk of both banks' portfolios in the two regions. Contrary to popular belief, oil-backed loans are not repaid in kind (meaning, through oil shipments). Rather, they are guaranteed by the proceeds of oil sales, which are required to be deposited into the borrower's account as a means of guaranteeing repayment. Oil-backed lending is not a Chinese invention, however. It surfaced as a common practice among Western private banking institutions in the 1990s (JBIC 2006), mostly as a means to circumvent the weak credit ratings of African oil-producing countries (such as Angola). In addition to lower interest rates and longer repayment periods, the distinguishing feature of Chinese oil-secured loans is that the repayment is guaranteed by the sale of a certain amount of oil (normally set in barrels of oil per day) throughout the loan repayment period to a specified Chinese NOC, usually Sinopec or the China National Petroleum Corporation (CNPC). The NOC is required to deposit the payment in the borrower's account with the Chinese lending institution, which is then used to service the loan. At the same time that this arrangement allows China to limit lending risks, it also serves China's energy-security purposes by

ensuring a continuous flow of oil over the repayment period. It is estimated that oil deliveries secured through CDB oil-backed loans alone – and only in South America and Russia – represented approximately 17 to 18 per cent of China’s oil imports in 2012 (Downs 2011b: 46). Furthermore, by bolstering the receiving country’s goodwill, these loans also serve the purpose of facilitating the expansion of Chinese NOCs’ exploration and production portfolios abroad (Downs 2011b: 46). By ensuring a long-term supply stream and facilitating the access of Chinese NOCs to oil equity, oil-backed loans thus pursue energy-security goals in addition to aiding the expansion of China’s enterprises overseas (Downs 2011b: 45).

The ambiguous cohesion between government, policy banks and NOCs, however, leads to questions regarding the extent to which these loans actually pursue national energy-security goals. Despite the close cooperation between the state and its agencies (the banks and NOCs) in putting forward this economic statecraft instrument, each of them has its own agenda. Profit concerns may not always align with national interests: Sending the oil back to China will mean lower profit margins for the NOCs, as the prices are controlled by the state (Downs 2011a). Added to this are the elements of competition between government entities (the Ministry of Foreign Affairs and the Ministry of Commerce), and friction between banking institutions and ministries (Corkin 2011). In light of this, oil-backed loans are better understood as a flow of converging interests rather than the execution of a highly cohesive, master state plan (Downs 2011b: 43). Ultimately, though, there is a reasonable compatibility between national and commercial interests. It remains unclear how much of the oil secured through these loans is sent back home and how much is sold in the international market for profit. However, the eagerness of NOCs and state banks’ CEOs to cultivate their party and state credentials (Corkin 2011; Downs 2011b) ensures that national interests remain high on their agendas.

The purpose of this article,¹ however, is not to establish the efficiency of oil-backed loans in pursuing energy-security goals. The above discussion merely seeks to illustrate that in addition to serving as a gate opener for Chinese business, this economic statecraft instrument also

1 This article is a condensed version of the author’s Ph.D. dissertation, *China’s Oil Diplomacy: Comparing China’s Economic Statecraft in Angola and in Brazil*, which was kindly sponsored by the Portuguese Foundation for Science and Technology and the Institute for Social and Political Sciences at the Technical University of Lisbon.

pursues energy-security goals by securing long-term supply and facilitating access to oil equity for China's NOCs (Downs 2011b). The article's objective is to uncover why China's oil-backed loans have performed better in Africa than in South America throughout most of the past decade in regards to its energy goals. It offers an in-depth comparison of two case studies, one from each region – Angola and Brazil – and discusses reasons for the differences observed as well as detailing recent changes in China's strategy in both countries.

The choice of the case studies is justified mainly by two facts: First, Angola and Brazil have potentially the same strategic importance for China owing to the similarities of their respective hydrocarbons reserves in terms of size, grade (sweet) and location (deep and ultra-deep waters, a new technological frontier that China wishes to master). Second, the oil industries of Angola and Brazil have very different institutional structures (centralised versus liberalised), a fact that constitutes the independent variable in this analysis. These justify the choice of Brazil over Venezuela, China's largest oil supplier in South America. Venezuela's reserves are located onshore (in heavy-grade oil sands) and are massive (296.5 billion barrels as of 2011), facts that could distort the analysis, as these reserves are far more strategically important to China. Also, owing to Chavez' voluntarism, Venezuela's oil industry bears more of a resemblance to the centralised institutional environments found in Africa than to those in other South American oil-producing countries, such as Brazil and Colombia. In the framework of the present research, which compares the performance of this specific economic statecraft instrument in two different regional institutional settings, focusing on Angola and Brazil thus allows for a more balanced comparative research design.

A Brief Overview of the Institutional Structure of the Angolan and Brazilian Oil Sectors

Although the Angolan and Brazilian oil industries display some similar features (see Table 1), they also present very different institutional frameworks (see Figures 1 and 2). The reasons for the disparity lie in the specific histories of both countries. Angola has a much shorter post-independence history (since 1975), and this period has been spent mostly under martial law and under one ruler (José Eduardo dos Santos). Brazil's post-independence history spans almost two centuries, during which time it has experienced many different rulers and regimes, all of which

have left an imprint on the current institutional structure of the oil industry.

Table 1: Current Overview of Angolan and Brazilian Oil Industries

	Proven reserves 2011 (billions barrels)	Production 2011 (barrels per day)	Hydrocarbon reserves location	Major foreign investors	Top export destinations (2010)
Angola	13.5	1,746,000	Mostly offshore (deep and ultra-deep waters)	Chevron, Total, ExxonMobil, Shell, BP, AGIP	China, US, India
Brazil	15.1	2,193,000	Mostly offshore (deep and ultra-deep waters)	Shell, Chevron, Repsol, Anadarko, Devon, Statoil, BG Group	China, US, St Lucia

Source: Author's own compilation based on BP 2012; MDIC-SECEX 2012; BNA 2012.

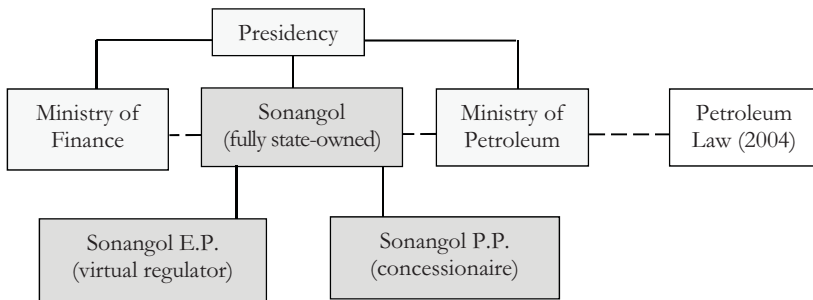
Despite the formal appearance of a multiparty democracy in Angola, in reality power remains highly concentrated in the presidency (Messiant 2007; Vidal 2007; Alves 2009). The presidency's vast patronage network ensures control over the means of production, and a weak civil society enables this state of affairs to remain unchallenged. The presidency controls the political and economic life of the country, while formally projecting an image of a multiparty system and market economy. As with the state institutional structure, the presidency also controls the oil industry, the major source of state revenue, through keeping a firm grip on the national oil company, Sociedade Nacional de Combustiveis de Angola (Sonangol) (Oliveira 2007).

Sonangol was established in 1976 as a state-owned company responsible for managing the exploration of hydrocarbons in Angola. Sonangol took over the operations and infrastructure left behind by Mobil, Texaco, Fina and Shell, which fled the country after independence. The first Petroleum Law was promulgated two years later. Although this law was replaced by a new one in 2004 (Ministerio dos Petroleos 2004), which integrated new concepts and practices originated by

the evolution of the industry over the years, the same basic principles remained. This legal framework places Sonangol at the core of the Angolan oil industry, combining quasi-regulator competences (for example, organising oil auctions and signing production sharing agreements – PSAs) with exploration and production (E&P) activity. The Petroleum Law also states that all oil companies entering the industry have to do so in association with Sonangol by creating a commercial enterprise (a joint venture – JV) or a consortium, or by signing a PSA. Other important legal aspects that favour Sonangol’s position in the sector include “preferential right”, which gives the NOC the right of first refusal when one of its associates sells its position (or part of it) in a block.

Although other institutional players (the Ministry of Finance and the Ministry of Petroleum – MINPET) are legally obliged to act as regulators for the sector, their roles have been dwarfed by Sonangol’s strong hold over the industry. MINPET competences include proposing new regulatory legislation, defining the areas of blocks, issuing prospecting licences (but not exploration licences, a task undertaken by Sonangol), and promoting studies and inventories of national oil resources.

Figure 1: Representation of the Institutional Structure of Angola’s Oil Sector



Source: Author’s own compilation.

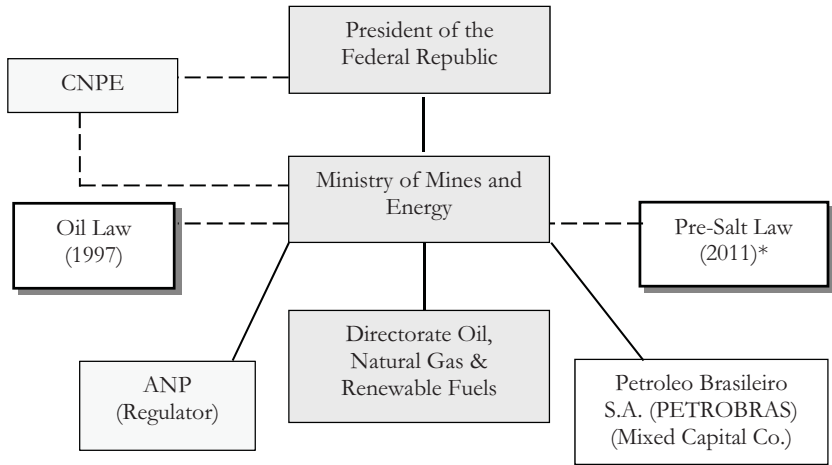
In sharp contrast, Brazil’s long post-independence history has gradually produced not only a pluralist and democratic regime, but also very strong business and civil society constituencies (Campos 2005; Bongiovanni 1994). This liberal institutional structure is also reflected in the oil sector. Even though oil exploration was monopolised by the national oil com-

pany (Petróleo Brasileiro SA, Petrobras) under the authoritarian developmental state (1946–1989), the democratising process in the 1990s led to liberalisation of the sector, with the state gradually assuming a regulatory role and Petrobras losing its exclusivity rights.

Petrobras lost its monopoly over oil and natural gas reserves through a constitutional amendment in 1995 that opened the industry up to participation by other public and private enterprises, both national and foreign. Further, in August 1997 a new law (*Lei do Petróleo*, the Oil Law) was promulgated to clarify the structure and rules of the domestic oil industry. The new law opened the way for Petrobras to be listed on several stock exchanges – namely, São Paulo, New York and Paris – though the federal government maintained a golden share. The new Oil Law also created an advisory body, known as the National Council for Energy Policy (*Conselho Nacional de Política Energética – CNPE*), which is headed by the Minister of Energy and Mines, and administratively placed under the president. The CNPE proposes national policies regarding the rational use of domestic energy resources, ensuring energy supply to remote areas, and defining policies for the import and export of hydrocarbons. The new Oil Law also established a regulating agency for the sector – the National Oil Agency (*Agência Nacional do Petróleo – ANP*) – and introduced annual auctions for hydrocarbons concessions. As the regulator, ANP competences include the study and determination of the oil blocks to be licensed, the promotion of licensing rounds, and regulating, contracting and monitoring the E&P concessions.

Whereas in Angola the patrimonial state managed to consolidate through liberalisation, in Brazil the centralised rule installed by the developmental state was shattered by the liberalisation process. As a result, the combination of the presidency's absolute control over the state apparatus and resources in Angola with insubstantial executive constraints produced a highly centralised and clear-cut institutional structure in the oil industry. In such a highly centralised environment, fostering a close and stable relationship with the president's office is one of the most important factors in succeeding in the oil sector in Angola. In Brazil, on the other hand, the executive's influence over Petrobras and the sector is curtailed by the semi-private nature of its NOC and by the checks and balances that were put in place during the liberalisation of the sector, which has made the structure more difficult for inexperienced players to navigate.

Figure 2: Representation of the Institutional Structure of Brazil's Oil Sector



Note: * New law that regulates the exploration of hydrocarbons deposits located in the pre-salt region.

Source: Author's own compilation based on MME 2012.

Chinese Oil-backed Loans in Angola

Although Angolan–Chinese diplomatic ties date back to 1983, the relationship began to flourish only at the start of the twenty-first century. Beijing's growing financial might and thirst for new markets and natural resources led to the internationalisation of the Chinese economy. This coincided with the end of Angola's civil war in 2002, its need for national reconstruction and its increase in petroleum production.

The synergies generated within this context account for the dramatic expansion of political and economic exchanges over the last decade. The rapid rise in bilateral trade volume (from 1 billion USD in 2000 to 25 billion USD in 2010) was pushed largely by Chinese oil imports. Beijing has been the main destination for Angolan petroleum exports since 2007, absorbing 43 per cent of Angolan oil exports in 2010 (Banco Nacional de Angola 2011). Angola, on the other hand, has become the second-largest supplier (after Saudi Arabia) of petroleum to China, accounting for 16 per cent of its global oil imports.

The most striking feature of the relationship has been the so-called “infrastructure-for-oil loans”, also referred to as the “Angola mode”. According to the Angolan Minister of Finance (*Macaubub* 2011), by late 2011 four credit facilities totalling 9 billion USD for infrastructure construction had been contracted with China Exim Bank and the CDB. Although the CDB loan (1.5 billion USD in 2010) is not oil-backed, the lion’s share of Chinese credit lines to Angola, which have been provided by China Exim Bank (2 billion USD in 2004, 2.5 billion USD in 2007 and 3 billion USD in 2011), are all secured by oil (Sonangol 2010).

The main purpose of the credit lines is to finance projects listed in the government’s public infrastructures programme. The first Chinese concessional loan, which was signed with China Exim Bank in March 2004, stipulated that 70 per cent of works, construction material, equipment and labour were to be contracted in China (Anonymous 8). This stipulation has not encountered any serious obstacles in Angola owing to weak regulations protecting local industry and labour. In addition, labour unions are non-existent, and business associations are weak and disorganised.

The conditions of the first loan stipulated that Sonangol would act as the guarantor, and repayment would be made with the proceeds of oil sales from Sonangol to Sinopec Group’s trading company, China International United Petroleum & Chemicals Co. Ltd. (UNIPEC) (Anonymous 9). This first loan established the initial contact between the Angolan and the Chinese NOCs, and secured China’s first long-term supply contract in the country. Although the contract refers to a fixed number of barrels per day to be sold to UNIPEC, the actual volume of oil for repayment varies according to market oil prices (Anonymous 1).

Although there is no official nexus between the loan’s extension and China’s access to oil equity, the chain of events illustrates that the timely extension of the loan paved the way for Sinopec’s debut in the Angolan oil industry (see Alves 2012b). Sinopec Group acquired its first stake in an Angolan oil block shortly after the signing of this first credit line. The stake – 50 per cent of the oil in Block 18, operated by BP – was being sold by Shell to the Indian Oil & Gas National Company (ONGC) (*Africa-Asia Confidential* 2009). By mid-2004 it became clear that Sonangol was going to exert its preemptive rights in Block 18 to jointly explore it with Sinopec (Semanario Angolense 2004). For this purpose, a JV was established in September 2004 between Sonangol and the Sinopec Group subsidiary, Sinopec Overseas Oil & Gas (SOOG, 55 per cent):

Sonangol Sinopec International (SSI). In December 2004, Sonangol formally exerted its preemptive rights to buy the equity at stake from Shell; in February 2005 the stake was placed under SSI, with Sinopec having paid 725 million USD for it (Angop 2005).

Thanks to its close ties with Sonangol, later that year Sinopec secured additional long-term supply through a loan syndication to raise capital for China Sonangol International Holding (CSIH, Sonangol’s JV with a private Chinese group from Hong Kong). Sinopec was placed as the guarantor, and UNIPEC (Sinopec’s trading company) as the off-taker. The same financial expedient was used in May 2006 to raise 1.4 billion USD on behalf of SSI, in order to develop its share in Block 18. By virtue of the aforementioned oil-backed loans, Sinopec ultimately received most of the oil produced by SSI in Block 18 (Vines et al. 2009: 43).

Table 2: Sinopec Petroleum Assets and Production in Angola

SSI assets	Estimated reserves (barrels) ^a	Production 2012 (barrels per day)	Estimated liquid quota of Sinopec (%)
50% Block 18 2004	1 billion	170,000 ^b	27.5
20% Block 15/06 2006	1.5 billion	–	11.0
27.5% Block 17/06 2006	1 billion	–	15.3
40% Block 18/06 2006	700 million	–	22.0
Estimated Sinopec total share	972 million	47,000 ^c	–

Note: ^a Refers to potential estimates of reserves by operators, Sonangol and others.
^b Estimate by the Angolan Ministry of Petroleum.
^c This value is a rough estimation, given that Sinopec’s total share of petroleum varies according to the petroleum profit margin that is owed to the government, which in turn varies according to the petroleum price.

Source: Author’s own compilation with data from Ministerio dos Petróleos 2012.

The close relationship that Sinopec had by then established with Sonangol largely explains the expansion of China’s oil equity in the tender

round held in 2005/ 2006. Through its partnership with Sonangol (SSI), Sinopec was awarded three stakes in some of the most disputed new ultra-deep water blocks: 20 per cent in Block 15/06 (operated by AGIP/ENI), 27.5 per cent in Block 17/06 (led by Total) and 40 per cent in Block 18/06 (operated by Petrobras).

The Souring of Relations

The honeymoon between the Angolan and Chinese NOCs was, however, short-lived. Sonangol–Sinopec relations suffered an initial backslide during the 2006 tender, following a misunderstanding over the signature bonus. On the brink of bid submission, SSI realised that the bonuses would be much higher than expected and alerted Sinopec accordingly. When the bids were known, Sinopec realised that its offers had exceeded the highest by about 150 million USD. Unhappy about this fact, the Chinese NOC pressured Sonangol to lower its bonuses. Discontent with the growing pressure from the Chinese side, Sonangol temporarily moved these assets (Blocks 15/06, 17/06 and 18/06) to China Sonangol and invited other companies to bid for the plots in question. Faced with the prospect of the imminent loss of these assets, Sinopec paid the bonuses and the assets were moved back to SSI (Anonymous 2).

The following year, another episode further damaged the relationship. In accordance with the prerequisites for Blocks 15/06, 17/06 and 18/06, Sonangol and Sinopec signed a partnership agreement in March 2006 to develop a refinery (*Agência Lusa* 2006). The refinery had long been on the Angolan government's agenda, since Luanda imports 70 per cent of its refined fuel (*Sonangol Universo* 2010: 39). The Sonaref refinery, in which Sonangol would hold 70 per cent and Sinopec 30 per cent, was to be built in Lobito and have a processing capacity of 200,000 barrels per day and a projected start of operations in 2010. Under the agreement, Sinopec was to provide the full funding required for the project, which was 3.5 billion USD (Angop 2006).

The whole project, however, collapsed in March 2007. The point of disagreement was that the technology to be used would limit the supply markets from the start. Whereas Beijing wanted to supply the Chinese market, Luanda envisaged supplying its own domestic market and Western markets (US and Europe). The reason for the disagreement was purely commercial. From the Angolan perspective, exporting to Asia would provide a far smaller profit margin, owing to longer distances (transport costs) and the fact that fuel is highly subsidised in most mar-

kets there, including China's. In contrast, exporting to Western markets would ensure far larger profit margins, owing to closer proximity and higher fuel prices in these markets.

Some interviewees emphasised that the Sonaref refinery was never a priority for Sinopec in Angola. Instead, it was undertaken as a compromise to please the Angolan government, which had linked the refinery project to the concession of blocks acquired in the 2005/ 2006 tender process. The allegedly limited interest of Sinopec would have decreased during the negotiations owing to the narrowing prospect of profit, given that Sonangol planned to construct a highly sophisticated refinery with technology that Sinopec did not have at its disposal. This would have both inflated the project cost substantially and made it unviable from the outset to contract subsidiaries of Sinopec in favour of Western companies. Within this context, the project would be less advantageous to Sinopec, as it had planned to capitalise not only on marketing the products, but also on loan interest and project construction (Anonymous 2).

From Sinopec's viewpoint, the realisation of the Sonaref project would have been worthwhile only on its own terms, as Sinopec was unwilling to incur financial loss for the sole purpose of consolidating its political capital. However, Sinopec underestimated the impact that this episode would have on the expansion of its interests in Angola, especially in light of rising petroleum prices.

Sinopec's Failed Efforts to Venture on Its Own

In the face of this unexpected obstacle, Sinopec Group attempted to pursue its interests in the Angolan oil industry on its own. Only a few months after disbanding the Sonaref partnership, Sinopec participated alone in the tender round for new blocks opening up at the end of 2007. The round was, however, frozen in the middle of 2008, initially owing to the proximity of the legislative elections in September 2008, and afterwards owing to the global economic crisis.

In 2009 Sinopec made another attempt to acquire petroleum assets in Angola separately from Sonangol. To this end, it joined forces with another Chinese petroleum company, the China National Offshore Oil Corporation (CNOOC), to acquire a 20 per cent shareholding in Block 32 operated by Total. The share in question was put up for sale by Marathon. The final agreement between Sinopec, CNOOC and Marathon – worth 1.3 billion USD – was reached in July 2009 (*Marathon* 2009). Two months later, Sonangol made public its intention to exercise its preferen-

tial right (Faucon 2009) to block the transaction. This asset was bought by Sonangol in February 2010 and placed under China Sonangol.

While in 2004 Sonangol used its preferential right to benefit Sinopec, the same expedient was used here to prevent the direct acquisition of assets by Chinese companies. Sonangol's attitude is even more striking given the extremely weak financial situation in which Angola found itself at that time in the context of the economic crisis and the fact that new credit lines were already being negotiated with three Chinese policy banks (China Exim Bank, the CDB and the Industrial and Commercial Bank of China – ICBC).

Efforts made by Sinopec during the period from 2007 to 2009 to expand its assets in the Angolan petroleum industry separately from Sonangol were therefore unproductive, contrasting sharply with the previous period (2004–2006), during which the ties between the two NOCs were fruitful. This suggests that Sinopec failed to recognise the critical importance of establishing and maintaining close ties with the parastatal to enable its progression in such a centralised institutional framework.

Attempting to Revive the Partnership with Sonangol

In the face of this, and having been excluded from the closed tender for the Angolan pre-salt blocks (2010–2011) and with slim prospects of open tenders in the near future, Sinopec finally seems to have come to the conclusion that its best chance to expand its acreage in the Angolan oil industry lies in revamping its partnership with Sonangol. In March 2010 Sinopec International – the listed arm of the Sinopec Group – acquired from the mother company, China Petrochemical Corporation, the 55 per cent shareholding in SSI, thus replacing SOOG. The deal totalled 2.5 billion USD. This transaction clearly indicates Sinopec's desire to rehabilitate the JV with Sonangol by replacing SOOG – a subsidiary of the Sinopec Group registered in the Cayman Islands – with another company in the group with a higher profile and a listing on the Hong Kong Stock Exchange.

Meaningfully, Sinopec's reorganisation exercise took place at the same time that Luanda started discussing two new oil-backed loans with China (2009/ 2010): a 6 billion USD credit line from China Exim Bank (Anonymous 7) and a 2.5 billion USD loan from the ICBC (Sonangol 2010). The China Exim Bank credit line was later reduced to 3 billion USD, while the ICBC loan seems to have been put on hold. Although it is not clear to what extent this was coordinated with the SSI "facelift",

these credit lines clearly signal China's return to the same approach that had been so efficient in 2004.

In fact, Sinopec's historic record in Angola shows that its only successful acquisition of equity there came in the context of the first Exim Bank credit line, largely benefitting from the good will and synergies generated by the loan. When relations with Sonangol soured, Sinopec's attempts to acquire new equity on its own were truncated by the Angolan NOC. This suggests that an association with Sonangol is the only way for Sinopec to expand its interests in the Angolan oil industry.

The equity Sinopec acquired through this JV on the margins of the first loan is of some significance. Through its net share (27.5 per cent) in Block 18, Sinopec's oil output in Angola is estimated at 47,000 barrels per day as of 2012 (see Table 2). When the blocks acquired in 2006 (Blocks 15/06, 17/06 and 18/06), whose combined potential reserves are estimated at 3.2 billion barrels (*Agência Lusa* 2006), come on stream (2013–2015), Sinopec's production in Angola may well expand to over 100,000 barrels per day (*AFX News Limited* 2006). In addition, the credit line also produced a long-term oil-supply contract which was structured to service the loan. According to one source in Luanda, the volume of oil being sent to China at the end of 2010 for loan repayments was approximately 60,000 barrels per day (Anonymous 2). With the extension of an additional 3 billion USD batch by China Exim Bank in 2011, this figure has surely increased substantially.

China's Oil-backed Loans in Brazil

The China–Brazil axis is undoubtedly one of the most prosperous alliances in the Southern Hemisphere at present. This feat, however, has taken some time to accomplish. Although diplomatic ties were established in 1974, bilateral relations lingered throughout three decades and took off only in the early 2000s. This resulted mostly from the convergence of Brazil's gradual economic stabilisation and the start of China's quest for new markets and commodity-supply sources overseas. In this context, China assumed an increasingly significant role in Brazil's foreign relations, particularly under Lula da Silva (2003–2010) (Leite 2009). This flourishing phase in bilateral relations was accompanied by the intensification of high-ranking bilateral exchanges, the institutionalisation of bilateral dialogue mechanisms and instruments, and a dramatic expansion in the volume of trade.

Bilateral trade grew from 2 billion USD in 2000 to 77 billion USD in 2011 (MDIC-SECEX 2012), with China becoming Brazil's largest trading partner in 2009. The commodities share in Brazilian exports to China rose sharply over this period, dominated by iron ore and soya. The most significant shift in bilateral trade over this period, however, was the addition of a third commodity to the Brazil–China exports: oil. Oil rapidly became the third-largest component of exports to China. Representing only 0.5 per cent of total Brazilian export value to China in 2003, the oil share expanded to 13 per cent in 2010 (4 billion USD). Owing to this surge, China became Brazil's major oil export destination in 2010, surpassing for the first time the US, which had occupied the position since the early 2000s.

Given Brazil's rising profile as an oil producer in the wake of the pre-salt discoveries, China's efforts to tap into Brazil's oil industry increased markedly throughout the 2000s. This is corroborated by the increasing number of agreements drafted, which envisaged closer cooperation between the two countries in the oil sector. A number of short-term supply contracts were also signed with Petrobras following Da Silva's first official visit to China in 2004. Since the early 2000s, China has attempted to implement the infrastructure-for-resources loans formula in Brazil, initially with an eye on the mining sector (see Alves 2012a). Several multibillion dollar credit lines for infrastructure development were announced between 2001 and 2008, but none materialised. The only loan that came into being in this period was actually in the oil sector but downstream: a credit line to fund a gas pipeline (the Southeast Northeast Interconnection Gas Pipeline – GASENE) linking Rio de Janeiro and the Bahia states.

Even though this credit line was not oil-backed, a brief analysis will help to clarify some of the dynamics at play that explain why the infrastructure-for-resources formula failed in Brazil, in spite of the apparent ripe conditions – namely, a lack of infrastructure and an abundance of resources.

Struggling before the Global Financial Crisis

The GASENE project was presented as one of Brazil's major infrastructure projects to a Chinese delegation from the Ministry of Commerce that visited Brazil in late April 2004. Later that year, China Exim Bank expressed to the Brazil National Development Bank (BNDES) its inter-

est in funding this project, provided that Sinopec was signed up as the contractor (Anonymous 3).

During Hu Jintao's visit to Brazil in November 2004, Dilma Rousseff – at the time the minister of Mining and Energy – announced that the Chinese proposal offered better conditions in terms of the repayment interest rate (*Gazeta Mercantil* 2004). Signing the GASENE cooperation agreement was part of Hu Jintao's official agenda in Brazil. Negotiations between the BNDES and China Exim Bank for the loan concession, however, stalled in early 2005. According to the BNDES, this was because China Exim Bank wanted Petrobras to act as a guarantor of the loan and sought to include in the contract a large share of labour, services and goods procured in China (Anonymous 3). The Memorandum of Understanding signed in September 2004 had already established a minimum Brazilian content of 75 per cent of the project. Having a large industrial base, a thriving services sector, a massive labour force and strict labour and import laws, the BNDES was in no position to make concessions. With powerful labour unions, rumours of the importation of Chinese workers ignited massive waves of criticism across the country.

In March 2006, the Brazilian side decided to kick-start the project, resorting to provisional loans while negotiations with China Exim Bank continued. These circumstances notwithstanding, Petrobras allowed Sinopec to remain in charge of the first phase of the project (the 300-kilometre stretch of pipeline from Cabiúnas to Vitória), and the 239 million USD engineering, procurement and construction (EPC) contract was finally signed in April 2006 (*Reuters* 2006), with construction starting almost a year behind the original schedule. Despite the problematic start, construction ran smoothly thereafter, with only residual Chinese content.

With no sign of progress from China Exim Bank, which kept pushing for a larger share of Chinese content, in February 2007 Petrobras cancelled Sinopec's contract for the second phase of GASENE (the 946-kilometre stretch from Cacimbas to Catu). A new tender was launched and a handful of domestic companies had already been pre-selected when, following governmental-level meetings, the CDB was authorised to replace China Exim Bank (Anonymous 3). The CDB signed a 750 million USD loan with the BNDES to fund the second phase of the project, with a total estimated cost of 2.6 billion USD (*Folha Online* 2008). Construction started in May 2008, following the sub-contracting of do-

mestic companies. The pipeline was successfully completed on schedule by Sinopec, just before Hu Jintao's visit to Brazil in April 2010.

The intergovernmental framework, the actors and the procedures of this deal indicate that China Exim Bank was indeed trying to implement a pattern in Brazil consistent with its infrastructure-for-oil formula in Africa. Although the project was carried out successfully with respect to China's energy-security concerns, the loan failed to produce meaningful results, as it did not secure any long-term oil contracts or facilitate Sinopec's access to oil equity. The onset of the global financial crisis, however, produced structural changes that would ultimately play in China's favour.

Succeeding in the Crisis Context

Despite falling short in terms of China's major oil diplomacy goals, the GASENE project secured a good foundation in Brazil, not only for Sinopec but also for the CDB. This certainly played a role when Petrobras approached the CDB in late 2008 looking for funding to develop the pre-salt oil reservoirs.

Petrobras had developed the technological skills to undertake this endeavour on its own, but lacked the necessary capital. One year after the announcement of the pre-salt deposits, Petrobras started searching for funding abroad. However, 2008 turned out to be a bad year for this, due to the global credit crunch. In November 2008, on his way back from an unfruitful trip to the US and Japan, Petrobras' chief executive officer, José Sérgio Gabrielli, stopped over in Beijing, where he met with the CDB president (Anonymous 4). Although the economic context was most unfavourable (with a freefall in oil prices, the sustainability of pre-salt exploration was hardly profitable), the CDB agreed to a loan of 10 billion USD, which, depending on its performance, could be increased in the future (Anonymous 4). In the following months, the details of the contract were negotiated between both parties, while the respective governments were brought in to provide political support.

The 10 billion USD loan agreement was formally signed by the CDB and Petrobras in May 2009 during President Da Silva's visit to China. As collateral for the loan, Petrobras signed a ten-year oil-supply contract with Sinopec's trading company, UNIPEC, to provide 150,000 barrels per day for the first year and 200,000 barrels per day for the following nine years.

The content arrangements have clearly been adapted to Brazil's institutional constraints, with only a minority share of the loan (3 billion USD) having been earmarked for the procurement of machinery and equipment from China (Landau 2010). Nevertheless, difficulties regarding this clause had already emerged by 2010, as Brazilian legal dispositions require high levels of local content and public tenders to be undertaken (Landau 2010).

In what turned out to be a meaningful move, shortly after the loan extension Petrobras offered Sinopec a partnership in two oil blocks located off the coast of northern Brazil (Pará-Maranhão Basin: BM-PAMA-3 and BM-PAMA-8). To some extent, this resembles Sinopec's access to its first oil equity in Angola on the margins of the first China Exim Bank credit line. The stakes in the Brazilian blocks, however, were not immediately made accessible to Sinopec. It took a year of negotiations between the two companies before a final agreement was signed during Hu Jintao's visit to Brazil in April 2010, whereby Sinopec was formally given access to a 20 per cent stake in each block. The amount China paid for the stakes was not disclosed. Currently the two blocks are still in the prospection phase.

Chinese oil-backed loans have clearly performed better in Brazil in the context of the global economic crisis. However, having granted Sinopec a generous long-term oil-supply contract, the collateral equity acquired fell below expectations, since these were stakes in shallow waters that took a long time to materialise and, indeed, whose production has yet to begin.

In sharp contrast, Chinese NOCs venturing out on their own managed to secure much better assets in 2010 through mergers and acquisitions (M&A), benefitting from the severe liquidity contraction of other players active in the Brazilian oil industry.

In May 2010 Sinochem acquired a 40 per cent stake from Statoil's Peregrino field in the Campos Basin (BM-C-7 Block) for 3 billion USD. Peregrino, in which Statoil retained a 60 per cent operatorship stake, is a shallow-water field (100–120 metres) estimated to have recoverable reserves of 300 to 600 million barrels of heavy crude oil (Chetwynd and Xu 2010). Its output is expected to reach 100,000 barrels per day in 2012, with a life span of 30 years (*Upstream* 2010a).

Toward the end of 2010, China acquired its first stake in Brazil's pre-salt blocks. Sinopec bought a 40 per cent share in the Repsol YPF SA Brazil unit for 7.1 billion USD. At the time, its recoverable reserves

in Brazil were estimated at 1.2 billion barrels (Duce 2010). The deal gave birth to Repsol Sinopec Brazil, creating one of the largest energy companies in Latin America (*Upstream* 2010b). Repsol's Brazil unit is the third-largest oil producer in Brazil and the second-largest holder of exploratory rights after Petrobras in Santos, Campos and the Espirito Santo Basins (Repsol 2010). Its assets include the producing field, Albacora Leste, which has an estimated reserve of 565 million barrels. Production started in 2006 and current output is 180,000 barrels per day, nearly 10 per cent of Brazil's total production (Oliveira 2011).

In late 2011, Sinopec acquired a 30 per cent stake in the Brazil unit of Galp Energia (a Portuguese oil company) for 5.2 billion USD (Ma 2011). Galp has stakes in 33 blocks in Brazil, four of which are located in the pre-salt Santos Basin. Its most valuable asset is a 10 per cent stake in the Lula field (formerly called the Tupi field, or BM-S-11), the most promising of the pre-salt blocks, with recoverable reserves estimated at 8.3 billion barrels of oil and gas. Production is believed to have reached 100,000 barrels per day by 2012.

Thanks to the equity acquired through M&A, the total production of Chinese NOCs in Brazil is expected to reach an estimated 50,500 barrels per day in 2012. This is set to increase substantially in the near future, as Chinese NOCs are also eyeing the oil assets of British Gas and OGX (the hydrocarbons arm of the Eike Batista Group – EBX) in Brazil, which are expected to be listed on the market soon.

Table 3 illustrates the poor performance of the Petrobras loan in facilitating access to oil equity in Brazil, with Chinese NOCs clearly having performed much better independently through farm-in deals. Nonetheless, the loan produced an important long-term oil-supply contract, which suggests that these kinds of loans will remain a useful tool for this particular purpose in Brazil.

Table 3: Petroleum Assets of Chinese NOCs in Brazil

Oil asset	Estimated reserves (barrels)	Estimated block production for 2012 (barrels per day)	Net share of Chinese NOCs
Acquired in the framework of the CDB's 10 billion USD loan to Petrobras			
Sinopec 20% Block BM-PAMA-3 & 20% Block BM-PAMA-8	Unknown	Still at exploration phase	20% 20%
Para-Maranhao (May 2010)			
Acquired by Chinese NOCs independently			
SINOCHEM 40% Block BM-C-7: Percgrino Campos Basin (May 2010)	300–600 million	100,000	40% (40,000 bpd, 2011)
REPSOL-Sinopec (October 2010) 10% Albacora Leste (Campos Basin)	565 million	180,000	4% (7,200 bpd)
37% BM-S-7 Piracuca (Santos Basin)	550 million	Still at exploration phase	14.8%
25% BM-S-9 (Santos Basin)	1.1–2 billion	120,000 (to start in 2013)	10%
GALP-Sinopec (December 2011) 10% BM-S-11/Lula field (Santos Basin)	8.3 billion	100,000	3.3% (3,300 bpd)
Total share of Chinese NOCs ^a	791 million	50,500	–

Note: ^a These figures are merely indicative.

Source: Author's own compilation using data from Agencia Nacional do Petroleo 2012.

Comparative Analysis of Chinese Oil-backed Loans' Performance in Angola and Brazil

The analysis of the events during this period clearly demonstrates the causal link between fundamental institutional differences between Angola and Brazil and the outcome variation of the energy-security goals stemming from these loans in the two countries.

Owing to Angola's highly centralised nature, the institutional and regulating structure of its oil sector has remained mostly unchanged and stable for over three decades. Concurrently assuming the role of virtual regulator and concessionaire, Sonangol was placed from the outset at the core of Angola's oil industry at the expense of the Ministry of Petroleum. The linear and uncontested authority chain, rooted in the presidency–Sonangol nexus, ensures the executive easy control over developments in the sector.

In sharp contrast, Brazil's oil industry presents a much more fragmented institutional structure. It encompasses several layers of authority – namely, the presidency, the Congress and the Senate, the energy advisory body (the CNPE), the responsible ministry (the MME), the regulating agent (the ANP), the states of the Union, and the public company (Petrobras). Moreover, the regulatory framework is also far more complex in Brazil, owing to an intricate and sometimes conflicting set of regulations – namely, the Oil Law and environmental and labour laws.

The critical impact of the underlying institutional structure on the original infrastructure-for-oil formula is proven in the first instance by the sharp contrast in negotiation processes regarding the first credit lines extended by China Exim Bank to Angola (for various infrastructure projects) and Brazil (for a gas pipeline) in 2004. The detailed analysis of both case studies has demonstrated that, although there was a swift negotiation and almost immediate disbursement of funds in Angola, in Brazil the process was contentious and lengthy, taking three years to settle. This was largely due to China Exim Bank's demands regarding Chinese content, which collided with Brazilian labour regulations and industrial policy. This was never an issue in Angola, where the agreement for 70 per cent Chinese content was readily settled on.

A closer look at the 10 billion USD loan extended to Petrobras in 2009 indicates that the CDB's approach was inspired largely by the original template. First, the loan is attached to a long-term oil-supply contract; second, Petrobras offered Sinopec stakes in two blocks as collateral

for the deal. The similarities in the approaches are due to Beijing's perception that a close partnership with Petrobras would be its best chance to access the promising pre-salt reservoirs. This perception was reinforced by the freezing of annual oil auctions in 2008. Moreover Petrobras' grasp over the pre-salt blocks was expected to be consolidated within the new regulatory framework for the pre-salt blocks that was then being drafted.

However, there are a number of changes in the above-mentioned deal that reveal some degree of adjustment to the specificities of the local institutional structure. First, the loan was directly negotiated and extended to the NOC and not to the Brazilian executive. Second, the deal was not aimed at infrastructure but rather at financing the development of the pre-salt reservoirs. Last, building on the experience with the GASENE credit line, the Chinese content was reduced to a minority parcel (30 per cent), in order to cope with the local content restrictions imposed by the Brazilian regulations. These developments suggest that China has adjusted its economic statecraft to fit the institutional framework in Brazil.

The acreage collateral to the Petrobras loan, however, took a while to materialise. This is explained by the fact that Petrobras' influence over the oil industry is curtailed by the checks and balances that were put in place during the sector's liberalisation. The fact that Petrobras is also accountable to its private shareholders means that it is less susceptible to political influence in its decision-making. In addition to this, in spite of the virtual monopoly of Petrobras over the local oil industry, the sector is managed by a separate regulatory body responsible for oil auctions, contracting and overseeing developments in the industry. This state of affairs thus limits the possibilities for Chinese NOCs to penetrate the sector by special favour.

This strategy has thus proven to have short-term prospects for securing meaningful oil equity in Brazil, especially in the pre-salt blocks. Indeed, and even though Brazil has a real interest in expanding its oil exports to China and fostering Sino-Brazilian JVs in the sector (particularly in downstream and midstream areas, and to produce oil equipment in Brazil), its interest in forging partnerships with Chinese NOCs for E&P in the pre-salt blocks is in reality limited. This is mostly because, first, the companies are perceived as pursuing Chinese state interests (Anonymous 5), and, second, Chinese NOCs lack the necessary technological skills and expertise to qualify as critical partners in the initial de-

velopment phases of the pre-salt blocks (Anonymous 6). Having no prospects of developing the necessary top-end drilling technology in the short run, the best option for Chinese NOCs is thus to participate in coming bidding rounds or to buy equity from other players divesting in the sector.

The context of the global financial crisis opened an unprecedented window of opportunity for Chinese NOCs to pursue their interests in Brazil. China's position as a global lender improved dramatically in tandem with the credit crunch in the international financial markets. This was particularly the case in developing regions, where many governments were facing low credit ratings in a context where infrastructure and resource development had become critical elements to sustain the economic growth cycle. Furthermore, by gaining easy access to cheap credit from state banks (see Downs 2010: 89–95), Chinese NOCs were among the few companies that had available cash in a period in which many resource assets were placed on the market by Western international oil companies in financial difficulty. As a result, Chinese NOCs tapped into the much sought-after pre-salt reservoirs, through M&A. Notably, this happened without any support from the Chinese government or any special favour from Petrobras or the Brazilian government.

Despite the initial success of the new approach in South America, there are many challenges ahead for Chinese NOCs. A primary obstacle is the lack of expertise and top technology, particularly regarding ultra-deep water exploration. Although the deep pockets of Chinese NOCs may offset this factor to some extent, they will not be sufficient to grant them operatorship stakes or access to the most profitable fields in future licensing rounds. Another major challenge is the lack of experience of NOCs in managing complex cross-border mergers and navigating heavily regulated markets. This is a particularly daunting challenge in countries with overlapping jurisdictions and complex regulations, such as Brazil. Even though this annoyance can be avoided to some extent by agreements, Chinese NOCs will eventually have to tackle the issue when they start bidding in the coming oil auctions.

The parastatal status of Chinese NOCs also raises concerns within targeted countries. A sovereign state company buying into another state's resources does not sit well with most recipient countries. Although this type of resistance has been until recently more common in the West (CNOOC–Unocal in the US in 2005; Chinalco–Rio Tinto in Australia in 2009), some concern in this regard is already surfacing in Brazil following

swift acquisitions by Chinese NOCs in Brazil over the last couple of years (Landau 2010).

The impact of the financial crisis produced a very different set of challenges in Angola. As discussed in the Angola case study, following the souring of relations with Sonangol in the Sonaref episode in 2007, Sinopec attempted to expand its oil portfolio in Angola by venturing out on its own in the global economic crisis context. However, the direct acquisition strategy that proved so fruitful in Brazil failed to produce results in Angola, as the attempts of Chinese NOCs were blocked by Sonangol. In fact, the farm-in strategy has met with mixed results across Africa. These include the successful acquisition of Addax in 2009, blocked bids for stakes in Angola and Libya in 2009, and no relevant oil assets through direct acquisition in Africa in 2010 and 2011 (see Alves 2012b). In this context, and with no licensing round expected in the near future, Sinopec's best chances of expanding its interests in Angola seem to still lie in a solid partnership with the local NOC (see Alves 2013). However, the extent to which infrastructure-for-oil loans will bear this kind of fruit in Angola in the future remains to be seen, as Luanda is keen to separate loans from favoured access to oil (Anonymous 1). A year on, the extension of the new China Exim Bank credit line has produced no collateral assets for any Chinese NOC.

Nonetheless, in regard to getting favoured access to oil equity, the analysis suggests that oil-backed loans seem to have better prospects of succeeding in centralised institutional, rather than liberalised, frameworks. These environments still present serious challenges for Chinese energy interests. Such challenges include the regulatory instability of the resources sectors in some countries (for example, Venezuela and Nigeria) and unexpected social unrest and regime change (Libya), all of which have the potential to cause serious losses for Chinese interests acquired through this particular instrument of Chinese economic statecraft.

Conclusion

Beijing correctly identified similar key prerequisites in Africa and South America for the deployment of infrastructure-for-oil loans – namely, the need to upgrade much depleted infrastructure and generous resources endowment. However, it failed to take into account structural differences in the social, economic and political environments, which ultimately dictated the varying degrees of success. The more liberalised institutional

structure and sophisticated regulatory framework of South America, which contrasts sharply with what China encountered in African countries (whose domestic structures were more often more similar to China's), largely explains the poor performance of this formula in South America.

Owing to China's elite-based approach and specificities (Chinese content), the extension of infrastructure-for-oil loans seems to perform best in institutional contexts where the executive wields a high degree of control over the oil sector (like in Angola), and worst in more liberalised contexts (like in Brazil). As China learns through practice and adjusts its strategies to fit different institutional structures, its economic statecraft is bound to assume distinct characteristics in different institutional contexts (infrastructure for oil versus loans for oil).

Since corporate strategies have proven to work better in more liberalised frameworks, direct acquisition and mergers are becoming a normal path for China to access oil equity in such contexts. This notwithstanding, the provision of loans remains a useful tool to secure long-term oil supply contracts. A recent negotiation spree in terms of loans for infrastructure (in Argentina, Ecuador and Colombia – all oil-producing countries) signals China's eagerness to pursue this positive economic statecraft formula in the region. However, as discussed earlier, Chinese loans in South America (either for infrastructure or resource development) assume a few distinctive features, one of which is a reduced share of Chinese content.

Conversely, the provision of credit for infrastructure to resource-rich countries in Africa is likely to remain a resourceful instrument not only to secure long-term supply but also to access oil equity. Illustrating this is a number of Chinese infrastructure-for-oil deals that were announced in Africa in 2011 and 2012 (3 billion USD each to Ghana and Nigeria, and 8 billion USD to South Sudan). However, as China's relationship with Africa matures, some gradual changes regarding content should be expected here, too – particularly the import of Chinese labour.

The extension of oil-backed loans should therefore be expected to remain a useful positive economic statecraft tool for China in pursuing its energy goals in both regions. The major difference between the regional strategies is that Chinese oil-backed loans extended to liberal institutional settings will tend to emphasise securing long-term supply over access to acreage, whereas in centralised settings these types of loans will most probably still aim to serve both goals.

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Contents

Introduction

- Karsten GIESE
Chinese Impacts and Impacting China 3

Research Articles

- Christine HACKENESCH
Aid Donor Meets Strategic Partner? The European Union’s
and China’s Relations with Ethiopia 7
- Rasmus LEMA, Axel BERGER, and Hubert SCHMITZ
China’s Impact on the Global Wind Power Industry 37
- Axel BERGER, Doris FISCHER, Rasmus LEMA, Hubert
SCHMITZ, and Frauke URBAN
China–Europe Relations in the Mitigation of Climate
Change: A Conceptual Framework 71
- **Ana Cristina ALVES**
**Chinese Economic Statecraft: A Comparative Study of
China’s Oil-backed Loans in Angola and Brazil** 99
- Susana MOREIRA
Learning from Failure: China’s Overseas Oil Investments 131

Analyses

- WANG Duanyong
The Safety of Chinese Citizens Abroad: A Quantitative
Interpretation of the “Special Notices for Chinese Citizens
Abroad” (2008–2010) 167
- Andreas HOFEM and Sebastian HEILMANN
Bringing the Low-Carbon Agenda to China: A Study in
Transnational Policy Diffusion 199

Contributors	217
Article Index 2012	221