OIL AND GOVERNANCE IN THE DEVELOPING WORLD: A CRITICAL STUDY OF CHINESE INVESTMENTS ABROAD

By
András Horváth

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Supervisor: Professor Andreas Goldthau

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ABSTRACT

This thesis investigates the motors of Chinese foreign equity investments in the oil sector. Hence, it draws on the scholarly literature to identify the major cleavages, that is, the dichotomies surrounding relevant discourse. By merging these dichotomies into an analytical model, this paper draws up three scenarios that could explain why we experience an upsurge in Chinese investments. Government and industry incentives to invest overseas are grouped systematically and their interests assessed separately. Then, the detailed investigation of Chinese energy governance reveals the main sources of conflict between the two and posits that national oil companies (NOCs) have generally managed to push through their interests. Here, many of the grey areas uncovered by secondary sources are valuably complemented by elite and expert interviews conducted in China by the author. Finally, a quantitative analysis underpins the previous findings and, thus, the thesis concludes that the overseas investments of Chinese NOCs are fueled by the *principle-agent problem*. The oil companies use and abuse government support and the lack of efficient coordination in order to pursue their corporate interests as opposed to wider policy goals.

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LIST OF ABBREVIATIONS

CCP: Chinese Communist Party

CNOOC: China National Offshore Oil Corporation

CNPC: China National Petroleum Corporation

E&P: Exploration and Production

IOC: International Oil Company

IPO: Initial Public Offering

M&A: Mergers and Acquisitions

MOC: Ministry of Commerce

MOFA: Ministry of Foreign Affairs

MPI: Ministry for Petrochemical Industries

NDRC: National Development and Reform Commission

NEA: National Energy Administration

NEC: National Energy Commission

NELG: National Energy Leading Group

NOC: National Oil Company

PRC: People's Republic of China (or China)

SASAC: State Asset Supervision and Administration Commission

SDPC: State Development and Planning Commission

SETC: State Economic and Trade Commission

Sinopec: China Petroleum and Chemical Corporation

SOE: State Owned Enterprise

SPC: State Planning Commission

INTRODUCTION

The People's Republic of China, the world's largest energy user, is increasingly reliant on crude oil. China became a net importer of oil in 1993 and by 2009 its import dependence passed 50% of consumption. Moreover, the dynamics of its oil consumption and the quasi-stagnating domestic production reveals that oil import dependency is likely to increase up to 60-80% by 2020 (IEA 2010 and Leung 2011, 1130-3).

Of course, China has not been a mere spectator of these trends; rather, it has proved to be active in forming policy options to frame the issue and give proper answers to any perceived problems. An obvious case at hand is the 1992 "going out" strategy, which aimed at expanding the role Chinese national oil companies (NOCs) play in the world market (Ma & Speed 2006). Already that year, the first overseas acquisition was concluded when the largest NOC, CNPC invested in Canadian oil sands (Leung 2011, 1332-4 and EIA 2010). By now, Chinese national oil companies have become major players in the oil business. In 2009, the major three – CNPC, Sinopec and CNOOC – ranked 5th, 26th and 38th respectively amongst the biggest oil companies in the world. CNPC is, in fact, the first globally in terms of total assets and number of employees (PIW 2010c).

The big three NOCs have been increasingly active in global M&A and are investing in equity shares all around the world. As a result, the equity oil of Chinese NOCs grew from 1.1 mb/d in 2009 to roughly 1.36 mb/d in 2010, while China's domestic production in 2009 was 4.0 mb/d (Jiang and Sinton 2011, 7). This incredibly swift rise in Chinese foreign acquisitions has generated fear among Western policy makers and even NGOs who warn against Chinese mercantilism, a new scramble for Africa or the derailment of Western humanitarian efforts. But what do the Chinese really want in these acquisitions? What is the agenda behind their efforts?

The goal of this thesis is to explain the motivations for Chinese acquisitions in global E&P projects. Currently there are two overlapping but analytically different dichotomies along which scholars vie to explain the motivations for Chinese foreign acquisitions*:* energy security *vs.* business and government control of NOCs *vs.* independence. The first dichotomy is often rooted in IR literature and has generated comparatively more debate focusing on (the rejection of) realist zero-sum game arguments. This dichotomy was also fueled by Chinese domestic discourse from the 2000s, which feared the growing dependence on imported oil. The second dichotomy would logically be based on public policy arguments in its inquiry to governance; however, the topical articles remain rather descriptive. One of the biggest challenges for this thesis is, therefore, to merge the two perspectives into one, more comprehensive study of the subject in order to identify the underlying reasons for China's petroleum-related foreign investments.

In the context of the *first dichotomy* (energy security *vs*. business), it is often the louder and more journalistic arguments that frame the debate. Indeed, the refurbished concept of "scramble for Africa" is ascribed to Declan Walsh, who warned against the detrimental humanitarian consequences posed by pragmatic Chinese energy investments in non-democratic African states in a Guardian article (2005). Incompatible interests in human rights governance is, in fact, a hot topic, which is often mentioned to undermine the purely business-centered theories on Chinese foreign expansion (see for example Taylor 2006). Similarly, the Congressional debate on CNOOC's bid to acquire Unocal reinforced the politically motivated energy security arguments and the incompability of Chinese and American interests in locking up reserves (see for example Mouwad 2005, Timmons 2005 or Zong 2007).

Ofodile speculates that Chinese presence in Africa (including energy investments) has strong political markers (2008, 534-6) and Zhao explains how oil fits in the larger picture of Chinese foreign expansion to create more interdependency with African states (2007, 406). Ögütcü sees geopolitics as an important driver of Chinese oil-asset shopping, which would ensure political stability in nearby or frontier regions and especially where the Muslim Uyghur minority lives (2002, 9). Xu Y. also engages in this debate and while (s)he emphasizes the economic aspect of the rivalry adds that the US and China are carefully navigating in Africa not to undermine each other's interests (2007).

Many authors have rejected the claims above and posit that Chinese NOCs are in fact business-driven market actors (e.g. Downs 2007). Their argumentation is mostly based on the objectives of NOCs: if they are business-like companies, energy-related investment would be motivated by economic reasons, regional imbalances or technological transfers; if NOCs are political actors, then the idea of energy security would play a more important role (Bressand n.d., 190-1). One of the most founded claims to support the "business" or "corporate interests" scenario can be found in a recent IEA publication. Here, Jiang and Sinton argue that the behavior of Chinese NOCs is basically independent from government control (and thus arguments on energy security) and is mainly commercially driven (2011).

In the context of the *second dichotomy* (government control *vs*. independence), most attention has been paid to understand power relations in energy governance. Aside from the common perception of state owned enterprises and the fear in the west that Chinese NOCs are toys in the hands of the political leadership, most scholars paint a more complex picture. Lee and Shalmon talk about the bipolarity of Chinese energy governance: "the government simultaneously strives to retain control of the industry while encouraging its state oil companies to be aggressively

entrepreneurial" (2007, 3). Cunningham argues that the often overlapping nature of Chinese energy governance hinders the effective transmission of government interests through NOCs (2007). Then, another strong argument is brought forward by Downs, who highlights the organizational and human resource shortcomings in Chinese energy governance: the corporatization of NOCs has drained the best professionals from ministries so the understaffed energy bodies have become unarmed against NOCs pushing through their corporate interests - she argues (2008a, 129).

As visible from the break-down of the two dichotomies, there is a growing – academic – inclination towards viewing Chinese oil-investments abroad in purely economic terms rejecting the premise that they are tools of the Chinese government. However, without rigorous analytical argumentation, the idea of NOCs acting like IOCs can be seen unfounded or speculative. This research, hence, embarks on a critical revision of these arguments and enhances the quality of the findings with qualitative insights and quantitative analysis with the potential of identifying the "real motivation" for Chinese equity investments.

As the first step, it is crucial to place the arguments of the two perspectives into one matrix (see *Table 1* where the horizontal axis refers to the first dichotomy and the vertical to the second one.) This analytical matrix offers a holistic system of three mutually exclusive scenarios that would explain the motivations of investments. The encompassing nature of this matrix and, in particular, mutual exclusivity means that if two of the scenarios were discredited, then the third would automatically gain validity. The underlying assumptions of the boxes are explained in more detail below.

From the previous discussion the NW-SE diagonal boxes are easier to understand. If effective control of NOCs is enforced, then the government can use NOCs as tools in its pursue of wider policy goals, including energy security, social policy or to use NOCs to break markets to increase non-energy related trade and investment (*geopolitics scenario*).

If no effective control is posed upon NOCs, then the oil companies can "freely" pursue their own interests; indeed, they form energy policies and can take advantage of the deep pockets of the government and the eventual diplomatic backing. This scenario, therefore, builds on the assumption that the agents (NOCs) take advantage of the lack of control and information to/from the government. The management is aware that even in case of defaulting, these NOCs are simply "too big to fail", therefore they can take more risks in investments (He 18/5/2011). Some would even argue that NOCs "have 'hijacked' the country's foreign policy" (see e.g. Gill & Reilly 2007) (*principle-agent scenario*).

The SW box is left blank since it is hard to make a case for politically uninfluenced NOCs that pursue costly energy security (and more complex political) goals in a competitive international market. On the other hand, the often neglected explanation behind the NE box is worth exploring. While it is reasonable to presume that the government would prefer to synergize complex solutions in almost every policy area, due to shortcomings in coordination, it is conceivable that it restricts the purview to the easily definable field of markets and profits. Simply put, if coordination is ineffective, it is still wise to push for more successful NOCs and thus more tax revenues (*politics is business scenario*). This scenario was relatively popular among the Chinese experts and scholars interviewed in 2011 (e.g. Zha 13/5/2011).

Table 1.

Analytical Matrix	**Energy security** *(good coordination of wider policy goals)*	**Business** *(bad coordination of wider policy goals)*
Effective government control of NOCs *(energy policy set by the government)*	Geopolitics scenario *(good coordination and energy policy set by government)*	Politics is business scenario *(bad coordination but energy policy set by government)*
Ineffective government control of NOCs *(energy policy set by NOCs)*	-	Principle-agent scenario *(bad coordination and energy policy set by NOCs)*

Structure and methodology

The thesis consists of three main chapters which develop on the arguments outlined above and discuss the possible drivers of Chinese acquisitions in global E&P projects qualitatively (*Chapter 1 and 2)* and quantitatively (*Chapter 3*). *Chapter 1* and, in particular, *Chapter 2*, rely substantially on the interviews conducted by the author in China, Spring 2011. In total, twelve semi-structured elite and expert interviews were carried out with professionals working at NOCs, researchers, members of academia and employees of regulatory agencies (see *Appendix I* for the list of interviewees). Their insights proved crucial in unveiling the sources of industry-government conflicts, incentives and matters related to power.

Chapter 1 disentangles the drivers of government policy and NOC actions, which tests the divisions applied in the analytical matrix and even fend off views that argue against the separation of government and NOC goals (e.g. Zha 13/5/2011). Additionally, the more detailed review of energy security and the wider political interests associated with foreign investments clarifies why the government pushes for complex goals instead of thinking about investments in direct economic terms. Then, a discussion of risk taking behavior will elucidate more on where to situate NOCs along the East-West axis of *Table 1*. Risk taking is analyzed along the lines of direct and indirect costs which would explain why Chinese NOCs overbid. While the findings are

inconclusive since they would require in-depth case studies, this review speculates that even if there were complex motivations for oil investments, this will less frequently be the case in the future.

Chapter 2 analytically reviews the evolution of domestic oil and energy governance with a special emphasis on the constituent motivations to carry out reforms. From an institutional perspective the restructuring of government institutions hints either at a problem of efficiency/effectiveness or change in power relations. Besides investigating what could have possibly caused institutional reforms, their effectiveness is also assessed in order to highlight the dynamics and prospects of Chinese energy and oil governance. This chapter provides important evidence on the grip of the government on NOCs and finds that NOCs are rather independent from the government and generally succeed in pushing through industry interests. Further, policy coordination has the potential to become more effective in China with the establishment of the National Energy Commission by 2010. Notwithstanding, coordination today remains fragmented, therefore, it is questionable that the government can effectively synergize its wide political agenda.

The findings in *Chapter 1* and *2* place Chinese motivations in the Eastern and, more specifically, the South-Eastern region of *Table 1*. While it is not expected that this research can conclude with full certainty on the Chinese motivation in going abroad, the model provides satisfactory explanatory power to identify the *principle-agent scenario* as the dominant one. To provide even more strength to the model, a quantitative analysis is run, which tests the *geopolitics scenario* and thus provides more evidence for underscoring the findings of the first two chapters.

Chapter 3, therefore, embarks on a quantitative, large-n study of Chinese investments and their effects on bilateral relations; hence, it investigates the extent to which Chinese energy investments could be or are used to break in to markets (see Lu & Yang 9/5/2011 and Zhao 2007, 401). This thesis posits that, if the *geopolitics scenario* is valid, then Chinese foreign trade should significantly increase after investments are made. Another, alternative explanation for the same phenomenon would be a non-deliberate but automatic increase in trade, which could be triggered, for instance, by the entrepreneurship of Chinese oil-field workers or province-level government bodies kicking-off new businesses. In case a correlation exists then the findings would be inconclusive. If the correlation does not hold, however, then either the coordination of wide policy goals is inefficient, or the government chose not to pursue these wider objectives hand in glove with oil investments. In any of the latter cases, the Eastern side of the analytical matrix (*Table 1*) will prevail and, thus, the findings in *Chapter 1* and *2* are reinvigorated.

The quantitative analysis is performed on a large-*n* truncated sample, that is, on all the countries where Chinese NOCs invested from 2002 to 2009 (for the list see Jiang and Sinton 2011, 39-40). In order to control for selection bias, regional imbalances or global dynamics, benchmarking is done based on regional trade data, which includes net oil importers as well as exporters. The data on bilateral trade is drawn from IMF's Direction of Trade Statistics (DOTS) (2005, 2007 and 2010 edition) while the composition of regions follows the 2010 edition of DOTS.

Since the goal of the analysis is to test market-break-in, only Chinese exports are included (see *Appendix II*); then from this data, the annual growth rates (*t-1*) are calculated in percentile form in order to prepare them for comparison. Further, these values are benchmarked and discounted by aggregate regional growth rates, as described above (see *Appendix III*). It is noteworthy that, as a result of discounting, any growth above zero means above average increase in exports. Finally,

Table 2 (see in *Section 3.1*) is built by computing the average of the discounted growth rates in the investment-intervals. The investment-intervals are left-closed and right-open; for instance, if in country X from 2002 until 2009 Chinese NOCs invested only once, say 2004, then the intervals are the following: 2002-2004 and 2005-2009.

Converting the raw export data this way allows for the meaningful and comparable study of "before-investment" and "after-investment" export trends; therefore, the relationship (if any) can be easily identified. The *Chapter* concludes that the *geopolitics scenario* was rightfully discredited during the previous qualitative analyses.

CHAPTER 1 – OVERSEAS INVESTMENTS: POLITICS OR BUSINESS?

This chapter further elaborates on the energy security vs. business dichotomy presented in the *Introduction*. First, in *Section 1.1*, the separate assessment of government and NOC goals provides the necessary check for the validity of the analytical matrix outlined in *Table 1*. Then, in *Section 1.2*, the often-cited risk taking behavior of Chinese NOCs will be analyzed which will already help situate NOCs in the analytical matrix: If risk taking is mostly due to "direct costs", then all three options remain on the table; however, if "indirect" costs are also accounted for, then the *politics as business* scenario must be discarded. Last, it is important to note that despite what is insinuated by *Table 1*, questions related to policy coordination are discussed in *Chapter 2*.

1.1 Parsing the field in two: government and NOCs

This section looks at and beyond polity-centered energy security arguments and outlines possible conflicts of interest between the government and NOCs. First, it reviews government (*Sub-section 1.1.1*) then NOC incentives (*Sub-section 1.1.2*) for foreign oil-related M&A and concludes at the end of *Section 1.1* that it is logically sound to assess these interests separately.

1.1.1 Politics: energy security and the wider political agenda

As indicated in the *Introduction*, energy security is one of the core arguments to explain government actions; hence, it is important to understand what this concept encompasses in the Chinese context and how it is influenced by equity investments abroad. Further, other government incentives interconnected with energy security are discussed.

Yergin's classic definition of energy security puts *adequate* and *reliable supply at a reasonable price* at the forefront (2006). This definition has since been patched and tailored many times without consensus; therefore, this essay chooses to refer to Chinese energy security as the reliable and adequate supply of oil at a reasonable low-volatile price (cf. al-Hajji 2007); it also takes note, as mentioned before, of issues interconnected with energy security, such as social or foreign policy. While reasonable price might sound vague, it is a characteristic of countries with NOCs to keep energy (and oil) prices low to ensure energy security which translates *directly* into social and political stability. In countries without NOCs this dynamic is also present, however, the government has comparatively less discretion over energy prices, thus, its responsibility is more detached. Any attempt to acquire oil at a cheaper price and/or to ensure with investments that the future price of oil will not increase dramatically is a government priority.

On the short term, equity investments do not strengthen energy security which is the result of transportation risks of equity oil and the existence of an accessible international oil market. Nevertheless, there are a few instances when equity shares can ensure lower price or more reliable supply: a) it eliminates middlemen who could cut the flow of oil and/or destabilize the "control" over oil prices (Leung 2011, 1335 and Anonymous 11/5/2011); b) inherent transportation risks can be handled by oil-swap agreements. (Ma & Andrews-Speed 2006); or c) in case an oil-embargo was posed on China, the investment-target county might fall outside the embargo and render the embargo ineffective (Leung 2011, 1334-5).

Now, it is important to reveal why, besides smaller or hypothetical gains in short-term energy security – and long-term gains in global energy security – would the Chinese government be interested to invest in foreign oil equity. Ma and Andrews-Speed (2006, 18) distinguish, in

addition, three policy areas to explain the phenomenon: social policy, foreign policy and industrial policy – the latter being discussed below when the NOCs' interests are outlined.

Social policy incentivizes the expansion of these companies simply to create more jobs (Zha 13/5/2011). A telling example is the government's decision at the time of IPOs to keep the less-profitable branches (generally service companies) of NOCs under full state ownership (Andrews-Speed 2010b). Foreign policy is often believed to be fostered by investments which strengthen economic and diplomatic relations, hence, creating stability. This could well deserve to be listed as a realist government priority, especially in neighboring regions; nevertheless, empirical evidence is rather confounding in this regard (Ma & Andrews-Speed 2006 and Fattouh & Darbouche 2010). It is also a relevant feature of foreign oil ventures that they bundle them with international aid or loan packages – a clear sign of foreign policy goals (Lu & Yang 9/5/2011). Finally it is important to consider an additional item: tax. While social policy would dictate to systematically maintain cheap fuel, economically it is in the government's interest that these large SOEs perform well and generate profits, since this leads to more taxes.

So far, "communist" China has balanced these conflicting interests well, since regardless of the regular, socially justified siphoning of NOCs, it has prevented consequent underfunding issues and channeled even more money into investments; as a result, Chinese NOCs could generate profits and secure considerably more funding than IOCs (Jaffe & Soligo 2010, 115-7 and He 18/5/2011 and Andrews-Speed 2010a).

1.1.2 Business: characteristics and incentives of NOCs

In spite of their political background, Chinese NOCs –in particular its management – must ensure that the companies are generating profits, therefore, the quest for reserves and profits is arguably

the primary incentive for NOCs going abroad (Downs 2007, 53). Conveniently, the financial strength of China has allowed them to invest abroad and thus escape the ensuing reality of low reserves-to-production ratios (R/P ratios) and aging fields (Jiang and Sinton 2011, 10).

NOCs are today active players in the international arena and have vested interest for more investment to increase reserves, revenues and gain international expertise. They must compete in a fierce international market, therefore, they can hardly accept to pursue goals other than profit-maximalization. Accordingly, the senior management of Chinese NOCs has become more internationalized, is better situated in the global business and is no longer composed by engineers who excel in giving purely technical answers to problems. (Ma & Andrews-speed 2006 Downs 2008a, 125-7 and Krahl 10/5/2011). Success on the international market is important to establish their future, but it is also contingent on domestic politics. At the moment, the successful NOCs have considerably more profits produced at home than overseas and the non-profitable foreign acquisitions induced a lot of criticism among energy professionals (He 18/5/2011). This is but another motivation for NOCs to think in terms of profits and ensure maximum returns (cf. Lu & Yang 9/5/2011).

The government's social policy somewhat overlaps with the interests of NOCs, because the employment of Chinese workers is rational: they are cheap and well-skilled (He 18/5/2011 and Feng 10/5/2011). But NOCs would no doubt decrease the number of workers to cut costs and become more efficient, something that happened to the listed subsidiaries (cf. Downs 2008a). In terms of foreign policy, government support to reach more profitable acreages can be considered desirable for NOCs (Ma & Andrews-speed 2006), yet, there were several cases where government backing, even if tacit, proved to be detrimental in pursuing international investments. Open or veiled domestic opposition based on zero-sum game arguments and, often, sinophobia in

the target countries caused many setbacks: in 2002 CNPC failed to acquire controlling stake in Russian Slavneft, in 2003 Sinopec and CNOOC failed to acquire BG's share of the Kazakhstani Kashagan field and in 2005 CNOOC was blocked to acquire Unocal in the U.S. (Ma & Andrews-Speed 2006). The Unocal bid, in particular, incentivized NOCs to keep a much lower political profile in order to circumvent criticism (Lee &Shalmon 2007).

In sum, oil equity investments are beneficial for the government i) to enhance somewhat (but not significantly) energy security by lower prices and long-term gains in supply-security; ii) to ensure continuous and growing employment in the sector (though with changes in demography the social pressure is expected to decrease Zha 13/5/2011); iii) to push for wider, foreign policy interests; and iv) to harvest tax revenues. For any government, the combination and possible synergy of these interests would be optimal. NOCs, on the other hand, are interested in i) generating profits; ii) employing a *reasonable number* of Chinese workers; and iii) avoiding open political backing. In conclusion, it is reasonable to establish that the divisions between government and NOC interests, presented in *Table 1*, hold ground since they significantly diverge.[1]

1.2 Are Chinese NOCs risk takers?

It is generally, yet not universally (see e.g. Jiang & Sinton 2011), assumed that Chinese NOCs are risk takers and therefore they often overbid; i.e., pay significantly more than the nearest bidder (Ma & Andrews-Speed 2006). To underpin the overbidding behavior three obvious cases are generally put forward: the Venezuela and Kazakhstan bid in 1997, and the 2005 Unocal bid in the US. Some explain overbidding to be caused by managerial-level inexperience in global

[1] Another factor for collision between the government and NOCs, i.e. domestic fuel prices, will be discussed in *Section 2.3*.

M&A, which is likely to change as time passes and the companies gain more expertise working with IOCs[2] (Leung 2011, 1335 and Ma & Andrews-Speed 2006). Here, however it might be revealing to speculate on the risk assessment of Chinese NOCs, since this would shed more light on how they price direct economic and indirect political (or other) costs.

Risk assessment is a grey area in the study of oil business, yet it is logically inferred from the ratio of expected costs and returns. On the market the price of crude is "globally set", however, there are two reasons why estimates for income per oilfield differ: *direct* and *indirect* E&P costs. Direct costs depend on experience (especially the technology, measured by the number of dry wells) and cost of capital. Indirect costs refer to the state of subsoil regulations, risk of nationalization, terrorism or diplomatic backlash. In the following, these costs are explained in more detail.

Statistics about the ratio of dry wells are not published even for IOC but is estimated to reach 70% (Zha 13/5/2011). In the case of Chinese NOCs, it is expected that with less international experience and lower quality equipment these companies could upload less crude (i.e. lower recovery rate); even their bundled services are worse quality than what IOCs offer. This stays true even in consideration of the decades-long experience NOCs had accumulated in domestic E&P projects, simply due to the challenge posed by substantially different geological circumstances[3] (Zha 13/5/2011).

[2] Listing these companies for IPOs was meant for them to ramp up cash and gain experience; however, cooperating with IOCs also givers NOCs more credibility in the eyes of resource-rich countries, thus, more access to top-class acreage (PIW 2010a). IOCs are interested to team up with Chinese NOCs to reduce risks, ease competition but also, in order to gain access to the Chinese domestic market. The latter, however, has rarely become reality; for instance, Saudi Arabia's downstream investments were put off by more than ten years due to unattractive domestic regulations (Andrews-Speed 2009 and PIW 2010a).

[3] This experience is more, however, than what the Japanese had and who managed to upload oil from less than six fields out of about one-hundred purchased (Zha 13/5/2011).

Cost of capital, however, is considered to be lower for Chinese NOCs, because they receive swiftly allocated and low-interest loans from state-owned banks. And while there are well-grounded projections that the WTO will push for more liberalization of state-owned financial institutions resulting in the normalization of the cost of capital among the players in the international field (Ma & Andrews-Speed 2006, 20-1), Chinese NOCs have already found other low-cost financing solutions. By earning strong creditworthiness on the Asian bond markets they can finance their investments below commercial loan rates (PIW 2010b).

In addition, large NOCs might have the advantage of parsing profits within internal subsidiaries so that not all angles of the investment have to be profitable.[4] And while it is generally presumed in the Western literature that management of large, state-owned companies is inferior to outsourcing,[5] IOCs did team up with Chinese NOCs to lower costs by their "large, cheap, well-trained workforce and (…) efficient supply chain" (PIW 2010a and Feng 10/5/2011)

To measure *indirect* E&P costs is a bigger endeavor. As this kind of insecurity is often resolved through power-based negotiations, it is hard to answer satisfactorily without access to classified documents, internal energy policy papers, memoirs or candid interviews with high-level decision makers (Zha 13/5/2011). There is however some evidence hinting on how Chinese foreign investments are strategically motivated. In Ethiopia, Chinese construction firms were instructed by the government to overbid (regardless of possible losses) in order to break in the market, while in Mozambique and Zimbabwe NOCs overbid in order to "secure a market position" (Gill and Reilly 2007).

[4] In the Iraq project, for instance, the Chinese are objectively low-paid for extraction, but they can bring a lot of engineers, machinery, and infrastructure which, in turn, generates more profits (Lu & Yang 9/5/2011).

[5] Many IOCs outsourced non-core functions following the sharp increase in oil price in 1996 (Lu & Yang 9/5/2011).

In all, technological constraints would decrease overbidding tendencies, but lower cost of capital and cheap labor (and organizational advantages) could explain why Chinese NOCs are willing to pay more. All *direct costs*, however, remain within the realm of economic feasibility and are, thus inconclusive in deciding amongst the scenarios. On the other hand, the tendencies in direct E&P costs preclude that the cost advantage is likely to grow in favor of Chinese NOCs in the future (PIW 2010a). In terms of *indirect costs*, as Bressand puts it, risk assessment is "relative, subjective and path dependent" (n.d., 190), and having faced serious backlashes – for instance in Ecuador– NOCs are gradually developing a risk assessments similar to IOCs. With lower direct costs and more realistic indirect cost-assessment, NOCs are bound to become even more competitive in the international market and, by growing exposure and experience, they are expected to cut better deals in the future. This signals a systematic and inherent stimulus to shift from West to East in the analytical matrix (*Table 1*).

CHAPTER 2 – DOMESTIC POLITICS AND (IN)DEPENDENCE OF NOCS

In this chapter an institutional analysis of energy governance follows which is expected to shed more light on *who* makes energy policy and, by proxies, on *how* independent NOCs are from the government. While most, if not all, the actors involved in Chinese energy governance are "state actors", this type of inquiry into the black box of government produces relevant displays of colliding interests and will help situate NOCs in the analytical matrix seen in *Table 1*.

The first section reviews the institutional characteristics of NOCs and discusses matters related to ownership, rank or appointment of managers. Here the "effective control of NOCs" is insinuated, but the multitude of actors and their overlapping functions debilitate good oversight. The second section digs deeper in procedural relations and hints on the possible distribution of power, based on the allocation of money and strategy-making. Finally, the third section brings in empirical evidence on everyday business to conclude that energy policy is mainly attributable to NOCs and that the government still struggles with the coordination of policy interests.

2.1 NOCs

Before the 1980s, administration of each energy carrier was organized into a separate ministry. Then, in 1988, the Ministry for Petroleum and the Ministry for Petrochemical Industries (MPI) were roughly transformed into two corporations, CNPC and Sinopec respectively, in order to promote competition, ensure higher efficiency and increase tax revenues (Jiang and Sinton 2011, 9). The third big Chinese NOC, CNOOC, was formed in 1982 under the MPI and was designed to resemble international oil companies. Following these transformations, Sinopec and CNPC

succeeded to retain their ministry-level rank (and vice-minister rank of the chairmen) while CNOOC obtained a lower, general bureau status. (Downs 2008a, 122)

In 2000 and 2001, subsidiaries of all three companies were listed for IPOs, but contrary to small enterprises which were fully privatized in 1997, these remained under majority ownership of their parent companies: Petrochina of CNPC, Sinopec Corp. of Sinopec and CNOOC Ltd. of CNOOC. Generally, the most profitable assets were transferred to these subsidiaries and the rest remain under full state ownership; in other words, the less-profitable ones with the large number of employees were kept under full state ownership in order to avoid significant lay-offs (Andrews-Speed 2010b and Zhiyue 2010 and Ma & Andrews-Speed 2006).

State ownership of NOCs and their listed filial is held through the State Asset Supervision and Administration Commission (SASAC), the ministry-rank institution formed in 2003 (Gill and Reilly 2007). SASAC does not collect dividends from NOCs, but has the authority to appoint high-level managers and influence appointment of top leaders of the companies – the latter being the discretion of the Ministry of Personnel (Bressand n.d., 187 and Downs 2008a, 123). Often described as a passive actor due to market limitations, SASAC has gained more importance in the past few years (He 18/5/2011 and Gill and Reilly 2007) and is expected to exert more influence in ensuring that NOCs do not violate national interests (cf. Krahl 10/5/2011).

2.2 Energy policy and coordination

Formally Chinese energy governance is headed by the State Council (the highest organ of executive power in the country) which has a similar composition to the Politburo, that is, the leadership of the Communist Party of China (CPC) (Andrews-Speed 2010b, 16 and Liang

18/5/2011 and EIA 2010). On the other hand, the operational level of energy governance is the one formulating policies and suggesting them to the top decision making bodies; hence, it is pivotal to grasp how energy policy is made and coordinated on the sub-State Council level.

Before the 1980s, the energy ministries – such as MPI – reported to the State Planning Commission (SPC) and the State Council, but no coherent coordination was employed; rather, energy policy "consisted mainly of the summation of the individual industry plans" (Andrews-Speed 2010b, 28). As the projections for import dependence grew, the government set up a Ministry of Energy in 1988 to coordinate energy policies, only to abolish it by 1993 due to its impotence to exert real influence over other ministries and NOCs bearing equal rank in the Chinese hierarchy (Andrews-Speed 2010b, 28 and Downs 2008a).

In the early 1990s, the "going out" strategy, that is, the approval of NOCs to invest abroad was announced. While this would reflect the government's strategy, a more thorough investigation of the subject reveals that the initiative was forced through by the companies (Zhao 2007).

A new World Bank-backed mechanism was embraced in 1997-8 calling for liberalization and the set-up of competition amongst energy companies, including national oil companies. Meanwhile, the government withdrew practically all regulatory tasks from the ministry-like NOCs, especially, CNPC (Xu X. 2007 and Andrews-Speed 2010b); consequently, in 1998, the State Economic and Trade Commission (SETC) became responsible for overseeing the operations of state-owned energy companies and the State Development and Planning Commission (SDPC; former SPC) was tasked with medium and long-term planning and pricing (Andrews-Speed 2010b and Zhiyue 2010 and Ma & Andrews-Speed 2006).

With growing concerns over international oil prices, a new restructuring was implemented in 2003. A new organization, the National Development and Reform Commission (NDRC), took most of the energy-related functions of SETC and SPDC with the small Energy Bureau, established within NDRC, being assigned with strategic planning and country-wide oversight of energy policies. Today NDRC with its Energy Bureau affiliate, which was renamed National Energy Administration (NEA) in 2008, has grown to become the main actor in energy-related policymaking and regulation. This ministerial-level agency – which is formally a department of the State Council – is in charge of approving new energy projects, setting domestic energy prices and implementing energy policies. Nevertheless, NDRC is not in an exclusive position as one of its more important functions (project approval) is parallelly influenced by CCP's party secretaries at all levels (EIA 2010 and Downs 2008a, 124-5). In addition, it is often posited that despite its ministry-like distribution of country-wide filial, the vice-premier rank of its Commissioner and anecdotal evidence suggesting that NDRC is, in fact, more powerful than other ministries[6], NDRC struggles to coordinate national energy interests with other (similarly-ranked) members, including NOCs (Andrews-Speed 2010b, Ma & Andrews-Speed 2006).

In 2005, an attempt of strategic planning and energy coordination brought to life the supra-ministerial level National Energy Leading Group (NELG) within the State Council (Peik et al. 2007, 9). NELG, however, remained passive until it was revamped into the National Energy Commission (NEC) in 2008 and is effectively running only since 2010 (Andrews-Speed 2010b). This organization is a "mini-cabinet" with 21 minister-ranking members – 12 (actual) ministers and commissioners, such as the chairman of SASAC, NDRC or Lt. Gen. Zhang Qinsheng

[6] NDRC's power in domestic development was more than tangible, when the 2008 economic stimulus package, worth 4 trillion RMB (586 billion USD), was pushed through and NDRC was assigned with its administration (Liang 18/5/2011 and EIA 2010 and Krahl 10/5/2011).

representing the military (Zhiyue 2010). It is formally headed by the premier but is in fact run by NDRC, as the Chairman of NDRC acts as the Director of the General Office (Zhiyue 2010 and Li 10/5/2011).

2.3 Who controls what?

There are several ways to indirectly assess power relations between the government and NOCs; here, two approaches are exemplified: *2.3.1)* the query into the government's motifs for institutional reforms; and *2.3.2)* the study of how institutional changes affected (if at all) the power relations between NOCs and the government. Besides relying on the scarce literature available, this section draws heavily on the personal interviews conducted in China.

2.3.1 Why reform?

One way to explain the motivations for institutional reform is based on the energy security premise. Andrews-Speed (2010b, 23), for instance, links reforms to threats of security of supply. Indeed, in the early 1990s, China becoming net importer of oil gave rise to the introduction of new market mechanisms in oil governance. Then the perceived insecurity of supply must have smoothed the way to large SOEs, such as CNPC, seeking overseas investments (Leung 2011, 1334). Later, between 2003 and 2008, high international oil prices pressed the government to deal with the potential restructuring of energy governance and the 2008 price reform.

Another perspective could be to view energy governance as the sum of diverging interests that is hindered by the collision of entrenched interests ranging from socio-economic to environmental arguments, hence, restructuring would be a way to fight off these deadlocks (Zha 13/5/2011). To illustrate this second conflict-centered argument, the fuel subsidy reform is presented now.

In 2008, shortage of domestic fuel supplies channeled growing attention towards a fierce conflict of interest between NOCs and the government. In fact, the phenomenon was not novel but the fruit of a tough bargaining process which put an end to 15 years of futile discussion in the legislature (National People's Congress) on the reform of subsidized fuel prices.

Subsidized fuel pricing is generally supported by the government in order to ensure economic growth and foster social welfare but it has been in the crosshair of downstream NOCs for economic reasons (See e.g. Li 10/5/2011). With the globally rising price of crude oil and the comparatively stagnant domestic fuel prices NOCs were losing profits. Even in 2005, the 50% rise in international oil prices rendered limited response as NDRC decided to increased fuel prices by only 20%; consequently, NOCs decided to export their products abroad rather than selling them in China, thus, creating a fuel shortage. NDRC was eventually compelled to increase fuel prices, but this move proved to be temporary (Downs 2008a, 130).

In 2008, a similar conflict of interest between corporatized NOCs and the government ensued and large refineries were put on "scheduled maintenance". This time, however, a reform was passed which allowed for the increase of domestic fuel prices in case the moving average price of selected crude oil grew by 4% for 22 working days. NDRC kept some discretion on the exact amount of domestic fuel price increase (He 18/5/2011), but the reform has eased the often disproportionate differences between international and domestic oil prices by implementing some sort of automatic response.

The fact that the pricing (and tax) reform was passed, might show the growing influence of NOCs since they forced the government to pass reforms by creating artificial shortage in domestic fuel supply (He 18/5/2011 and Zha 13/5/2011 and Feng 10/6/2011 and Dyer &

McGregor 2008). Lu & Yang emphasize the inherent nature of Chinese politics based on consensus and bargaining (9/5/2011), but this only differs from the "conflict of interest" narrative in style and procedure of settlement. As Zha elucidates, this "tremendous step forward" (i.e. pricing reform) was furthered by government-sponsored comparative studies on fuel pricing systems in Japan, Korea and Germany, which succeeded in shifting relevant power-structures and ease entrenched interests (13/5/2011). Others (e.g. He 18/5/2011), however, speculate that the government was less proactive in pushing this reform through and thus a new super-ministry had to be created to tame the oil giants.

2.3.2 Evaluation of reforms

In general most scholars agree that despite the structural changes and shuffling of tasks and responsibilities, the government's role in energy governance has progressively declined since the early 1990s and no effective governance emerged. This could be partly explained by an "ahistoric perspective", i.e. the inability of learning from past mistakes (Andrews-Speed 2010b and Zha 13/5/2011) Or, as others – such as Li (10/5/2010) and Downs (2008a) – highlight, organizational problems, such as the lack of qualified personnel, resources and equal hierarchical status hinder effective energy governance. Here, three reforms are briefly evaluated: the competition among NOCs, NDRC's role in energy policy and coordination through NEC.

Creating competition among petroleum companies has led to mixed results, as – instead of the envisaged emergence of five or six competing companies – the big three maintained their quasi-monopolistic power in upstream, downstream and off-shore while swapping some assets (Ma & Andrews-Speed 2006). Other than the failure of reforms, though, this can be explained by path-dependency and the characteristics of the oil sector: huge capital needs and profits yielding long-term results (Lu & Yang 9/5/2011). Interestingly, by now the big three have started to compete

against each other domestically and for overseas investments, exemplified by South-American ventures (Krahl 10/5/2011 and Lu & Yang 9/5/2011).

NDRC and, in particular, the NEA does not have the physical and human resources to effectively carry out their tasks. They are overwhelmed by the amount of work and thus NOCs will remain the main "drivers of projects and policies" (Downs 2008, 45). This is why NDRC is often viewed to create energy policy hand in hand with NOCs; that is, it furthers industry interests (Krahl 10/5/2011). A good example of NDRC's limited power is that in spite of an official discouragement of NOCs to invest in Sudan in 2007, CNPC kept acquiring Sudanese assets. (Downs 2008b, 43)

In regards to the establishment and operation of NEC, many conflicting views surface. It is argued to be established for political expediency ("*charade*") in order to address but not solve existing conflicts of interests, since it has not passed (nor does it have established procedures to pass) any hard policies or sanctions. (Zha 13/5/2011 and Li 10/5/2011). He Huang, on the other hand, sees the establishment of NEC as a move to channel more power to NDRC which now influences (through NEC) energy-related investments, acquisitions and taxation – many of which were assigned to the Ministry of Finance previously (18/5/2011). He also supports the idea that creating NEC was necessary to effectively (by hierarchy) control NOCs. Since decisions are made informally and not during the three official meetings held thus far, it is hard to assess the effectiveness of NEC. He Huang considers its operation relatively effective (18/5/2011), while Li (10/5/2011) or Krahl (10/5/2011) remain skeptical.

CHAPTER 3 – FOREIGN TRADE AND CHINESE OIL INVESTMENTS

In this chapter some of the findings presented above will be tested with quantitative methods. In particular, the correlation between oil investments and foreign trade is examined, which relates to the first dichotomy, that is, the East-West axis of the analytical matrix. It is expected that if the correlation between investments and trade is weak or non-existent, then the geopolitics scenario can be discredited, since "breaking in markets" is one of the most often cited reasons for the (political) expansion of Chinese NOCs (Lu & Yang 9/5/2011).

In order to assess changes in trade, IMF's DOTS dataset was used and *Table 2* (see below) was computed according to the methodology devised in the *Introduction*. This table shows the regionally discounted average growth of Chinese exports to target countries grouped by the years of investments. It is expected that, if the *geopolitics scenario* is valid, then this grouping would reveal increasing trends, i.e., consistently increasing discounted annual growth rates. On the other hand, if the correlation is insignificant or inconsistent even for the calculated averages then the *geopolitics scenario* has to be discarded, since this would reveal either bad coordination of wider policy goals or that the government does not use NOCs to break in markets. In both of the latter cases, the Chinese motivations should be placed on the Eastern side of the analytical matrix (*Table 1*).

Table 2.

Discounted average growth of Chinese exports to target countries between oil investments (2002-2009)				
Countries	Investment 0-1	Investment 1-2	Investment 2-3	Investment 3-4
Indonesia	-16,85%	-4,71%	2,76%	(-8,54%)
Angola	31,79%	47,51%		
Chad	60,81%	135,87%		
Nigeria	2,45%	6,56%		
Uganda*	10,32%			
Brazil*	6,77%			
Ecuador	30,25%	-0,48%	-1,34%	
Australia	4,45%	(8,79%)		
Canada	6,29%	(9,59%)	0,30%	
Norway	7,58%	-0,19%	(18,24%)	
US*	0,37%			
Syria	8,05%	-0,79%	(7,15%)	
Yemen	-6,47%	(9,88%)		
Kazakhstan	13,99%	6,42%	0,21%	
Russia	-5,12%	-5,99%		

(Countries marked with asterisks received investments only in 2009 or 2010, therefore, their data could not be matched with the export-growth rates after the investments. The percentile in parenthesis are so-called "singe-year averages"; i.e., data for a specific year and not an actual average.)

Inconsistency in trends of Chinese exports grouped in accordance to oil-investments can be already presumed from *Table 2*, but it is worth creating a result table which sums up the tendencies in one place (see *Table 3*).

Table 3.

Average Matrix				
Including "single-year averages"				
No. of investments	**Investment 0-1**	**Investment 1-2**	**Investment 2-3**	**Investment 3-4**
1	11,43%	17,70%		
2	13,23%	2,91%	4,91%	
3*	-54,75%	21,53%	-8,57%	17,76%
Excluding "single-year averages"				
No. of investments	**Investment 0-1**	**Investment 1-2**	**Investment 2-3**	**Investment 3-4**
1	14,44%	20,19%		
2	8,42%	2,70%	0,48%	

(* Indonesia)

It is clear from this average matrix that if investments are grouped by the "before-" and "after-investment" criteria, then no general correlation can be identified between oil equity investments and trade. While there is a slight correlation in countries with only one investment during the study-period, the tendencies of other states, which have more than one instance of investment, reveal inconsistency; therefore, the *geopolitics scenario* can be confidently discredited. In sum, this quantitative analysis has shown that the boxes on the Eastern region of the analytical matrix (*Table 1*) are more realistic.

CONCLUSION

This thesis set the goal of investigating and explaining the underlying reasons for Chinese foreign oil investments. To answer this question first the main cleavages, that is, two overlapping but analytically distinct dichotomies of the literature, were identified: energy security *vs.* business and government control of NOCs *vs.* independence. By merging these dichotomies into one analytical model, this research created a more comprehensive and arguably more effective method to assess motivations. The model outlines three mutually exclusive but, taken together all-encompassing, scenarios which could apply for the investments under review: the *geopolitics scenario,* the *politics is business scenario* and the *principle-agent scenario.* Consequently, throughout the study the major objective was to situate Chinese motivations along this model and identify which of the three scenarios fit reality the neatest.

First, the assumptions of the model were tested and subsequently reinforced by the recognition of diverging industrial and government interests. Then, an analysis of risk assessment and the overbidding behavior of the oil companies followed, which showed that the dynamics of foreign investments are shifting towards even more business-oriented understandings; i.e. an inherent and systematic stimulus to shift from West to East in the analytical matrix.

Then, the energy and oil governance structure first reaffirmed the legal, governmental control of NOCs which manifested by matters of ownership and appointment of personnel; nevertheless, a more detailed analysis into policy procedures revealed that it is the NOCs that influence energy policies and not *vice-versa*. This point is underpinned by the brain-drain of professionals from the regulatory bodies into NOCs and several instances of industry-friendly strategic decisions.

Among these, the announcement of the "going out" strategy was initiated by NOCs and the closer scrutiny of the fuel shortage crisis shows that NOCs managed to push through important reforms to keep their profits high, despite the social costs. Therefore, it was established that energy policy is "made" on the industrial level, which would place the result of this research in the Southern area of the analytical matrix.

The coordination of policy interests was also analyzed and the consequent institutional reforms do suggest that the government has been, up to date, unable to satisfactorily resolve entrenched interests and create effective coordination. The establishment of NEC can be seen as the first, potentially fruitful effort to impose control on NOCs and establish inter-ministerial consensus on energy policy, and thus, foreign investments. These findings show that the coordination of wider policy goals is not effective (yet), indicating that the motivations for investments resemble the scenarios of the Eastern half of the political matrix.

Last, a quantitative analysis was run in order to test the qualitative findings. The correlation-analysis revealed that changes in Chinese exports to the countries where NOCs invested is inconsistent, therefore the *geopolitics scenario* was discarded and the validity of the scenarios on the Eastern half of the analytical matrix reinvigorated.

In sum, this study built an analytical model with mutually exclusive scenarios, which cover possible motivations for Chinese foreign investments in a holistic way. By the exclusion of the *geopolitics scenario* using qualitative and quantitative methods and, by the in-depth analysis of domestic governance positing that energy policy in China is led by NOCs, the South-Eastern box (i.e. *principle-agent scenario*) of the model is identified as the most suitable motif for Chinese

NOCs investing heavily abroad. *It is concluded, therefore, that Chinese NOCs – at the moment – take advantage of and abuse government backing in the pursuit of their own interests.*

Whether this scenario remains valid in the future depends on the extent to which the government succeeds to foster efficient inter-ministerial coordination and on how the inherent and systematic stimulus towards more competitive international behavior of NOCs materializes in the following years.

APPENDICES

Appendix I. List of interviewees (China, May 5-19, 2011)[7]

1. Feng, Lianyong: Professor at China University of Petroleum-Beijing. School of Business Administration (former employee of CNPC)

2. He, Huang: researcher at Energy Research Institute of the National Development and Reform Commission

3. Krahl, Daniel: Lecturer of International Relations at China Foreign Affairs University

4. Li, Hongquang: PhD Candidate at Centre for Resources Research, Institute of Geographic Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences

5. Liang, Chunyu: Programme Officer at UNFCCC

6. Liu, Litao: PhD Candidate at Centre for Resources Research, Institute of Geographic Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences

7. Lu, Xiangqian: Deputy Chief Editor of International Petroleum Economics

8. (Anonymous): Team Leader at PetroChina International Company Ltd.

9. McAlinden, Karl J.: Institute of Public & Environmental Affairs

10. Xie, Xui: employee of CNPC

11. Yang, Chaohong: Under-Secretary-General of Petroleum Economics Commission of Chinese Petroleum Society and Chief Editor of International Petroleum Economics

12. Zha, Daojiong: Professor at School of International Studies at Peking University

[7] The research trip was partially financed by CEU's MA student research grant. Transcripts of the interviews are available upon request from the author.

Appendix II. Chinese exports to selected countries (2000-2009)

Countries and regions	(Mainland) Chinese exports to selected countries and regions 2000-2009 in billions of USD									
	2000	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
WORLD	**249,195**	**266,698**	**325,711**	**438,25**	**593,232**	**763**	**970**	**1219**	**1429**	**1203**
Developing Asia	**16246**	**17843**	**23,146**	**30,755**	**43,306**	**56,799**	**74,484**	**103,304**	**129,795**	**122,251**
Indonesia	3,062	2,847	3,427	4,481	6,257	8,369	9,457	12,618	17,214	14,744
SSA	**3,389**	**4,153**	**4,617**	**6,887**	**8,959**	**11,914**	**17,338**	**24,652**	**34,272**	**31,207**
Angola	0,034	0,046	0,061	0,146	0,194	0,373	0,894	1,241	2,931	2,385
Chad	0,001	0,001	0,002	0,002	0,006	0,015	0,014	0,065	0,080	0,154
Nigeria	0,549	0,919	1,047	1,787	1,720	2,305	2,856	3,8	6,758	5,478
Uganda	0,014	0,017	0,028	0,051	0,076	0,079	0,138	0,202	0,230	0,231
Western Hemisphere	**6,908**	**8,022**	**9,139**	**11,511**	**17,824**	**22,751**	**34,527**	**50,005**	**69,741**	**55,637**
Brazil	1,224	1,363	1,466	2,145	3,675	4,829	7,380	11,377	18,775	14,126
Ecuador	0,075	0,134	0,195	0,239	0,344	0,467	0,715	0,942	1,534	1,004
Advanced Economies	**208,196**	**220,346**	**267,035**	**356,085**	**477,920**	**607,530**	**750,548**	**906,836**	**1020,778**	**858,499**
Australia	3,429	3,574	4,589	6,263	8,838	11,065	13,626	17,998	22,244	20,664
Canada	3,158	3,35	4,305	5,633	8,162	11,658	15,520	19,363	21,790	17,673
Norway	0,487	0,412	0,527	0,899	1,029	1,322	1,700	2,2	2,560	2,620
US	52,162	54,395	70,064	92,633	125,155	163,348	203,898	233,181	252,786	221,384
MENA	**7,066**	**8,1**	**10,974**	**15,371**	**20,183**	**26,935**	**36,294**	**52,911**	**70,649**	**63,913**
Syria	0,174	0,223	0,357	0,481	0,693	0,888	1,357	1,869	2,264	2,210
Yemen	0,176	0,21	0,305	0,354	0,458	0,547	0,806	0,964	1,165	1,169
CIS	**3,293**	**3,606**	**5,257**	**9,444**	**14,062**	**21,682**	**28,43**	**48,71**	**65,461**	**40,036**
Kazakhstan	0,599	0,328	0,601	1,566	2,212	3,899	4,752	7,447	9,820	7,750
Russia	2,233	2,715	3,522	6,035	9,102	13,211	15,829	28,484	33,011	17,518

(Source: Direction of Trade Statistics 2005 and ibid. 2007 and ibid. 2010)

Appendix III. Discounted growth-rate of Chinese exports (2000 to 2009)

Annual growth of Chinese exports discounted by the value of export-growth in the region (in percentages; base year: t-1)									
	2001	***2002***	***2003***	***2004***	***2005***	***2006***	***2007***	***2008***	***2009***
Indonesia	-16,85%	120,24%	-2,12%	-1,18%	2,60%	-18,14%	-5,27%	10,78%	-8,54%
Angola	12,75%	21,44%	90,18%	2,79%	59,28%	94,15%	-3,37%	97,16%	-9,69%
Chad	-22,54%	88,83%	-49,17%	169,91%	117,02%	-52,19%	322,10%	-15,95%	101,44%
Nigeria	44,85%	2,76%	21,51%	-33,83%	1,03%	-21,62%	-9,13%	38,82%	-10,00%
Uganda	-1,11%	53,53%	32,98%	18,93%	-29,04%	29,16%	4,19%	-25,16%	9,38%
Brasil	-4,77%	-6,37%	20,36%	16,49%	3,76%	1,07%	9,33%	25,56%	-4,54%
Ecuador	62,54%	31,60%	-3,39%	-10,91%	8,11%	1,34%	-13,08%	23,38%	-14,33%
Australia	-1,61%	7,21%	3,13%	6,90%	-1,92%	-0,40%	11,26%	11,03%	8,79%
Canada	0,24%	7,32%	-2,50%	10,68%	15,71%	9,59%	3,94%	-0,03%	-3,00%
Norway (Dubai/UAE)	-21,24%	6,72%	37,24%	-19,75%	1,35%	5,05%	8,59%	3,80%	18,24%
US	-1,55%	7,62%	-1,14%	0,89%	3,40%	1,28%	-6,46%	-4,16%	3,48%
Syria	13,53%	24,61%	-5,33%	12,77%	-5,32%	18,07%	-8,05%	-12,39%	7,15%
Yemen	4,68%	9,76%	-24,00%	-1,93%	-14,02%	12,60%	-26,18%	-12,67%	9,88%
Kazakhstan	-54,75%	37,45%	80,92%	-7,65%	22,08%	-9,25%	-14,62%	-2,52%	17,76%
Russia	12,08%	-16,06%	-8,29%	1,92%	-9,04%	-11,31%	8,62%	-18,50%	-8,09%

(Own calculations based on Direction of Trade Statistics 2005 and ibid. 2007 and ibid. 2010)

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