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# Oil elite networks in a transforming global oil market

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## Abstract

This article analyses oil elite formation in light of the wider transformation that is taking place in the global oil order due to the rise of powers from the Global South, including Russia: in particular, the expansion and integration of the state-owned oil companies into the global oil market. This is done by analysing the networks that the directors of the world's largest oil companies create through their affiliations with a) other corporations, b) policy planning bodies and c) with the state. The most important finding is that the increased cooperation between the Western private oil companies and the non-Western state-owned oil companies has not yet translated into increased integration between their respective elite networks. It is argued that this indicates we are witnessing a transition towards a more multi-polar global oil order that increasingly needs to take into account the rising powers of the Global South.

## Keywords

Corporate elite networks, geopolitics of oil, Global South, interlocking directorates, social network analysis

## Introduction

The current decade is witnessing what seems to be a transformation of the global oil order. Indications of this transformation are a global expansion of state-owned oil companies from the Global South and Russia, a resurgence of resource nationalism in various key producing regions across the globe, declining reserves within the key major consuming countries, exponentially growing demand from the so-called 'emerging economies' and an exceptionally high oil price. Another significant characteristic is the politicization of climate change. These developments have led to a revival of the debate – both within academics and in politics – on energy security, the potential for increased geopolitical rivalry over resources, a re-intensification of so-called 'resource wars', the possible dangers of oil and gas dependency, and the possible threats that the rising state-owned energy companies might pose to the (interests of the) private oil companies and neoliberal market mechanisms (e.g. Bradshaw, 2009; Correljé and Van der Linde, 2006; Helm, 2005; Hoogeveen and Perlot, 2005; Klare, 2001; Van der Linde, 2000; Vivoda, 2009).

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The point of the departure for this article is that these developments should be seen within a broader shift that is currently taking place within the global political economy, that is, the much commented rise of economic and political powers from outside the West and the shifting gravity of power towards the Global South, in particular Asia.<sup>1</sup> The broader question underlying this study is, therefore, to what extent and how the rise of the Southern state-owned oil companies (will) lead to a fundamental challenge to the power structures within the existing global oil market and its 'rules of the game'. As noted above, while there are clear signs of a transformation taking place, it is still unclear what the precise nature of this transformation is and what the possible outcomes are.

Previous research shows that the global expansion of the Southern state-owned oil majors has been paralleled by their *integration* into the global oil market through increased joint relations and cooperation with the private oil majors (de Graaff, 2011). Other studies on state-owned oil companies also show evidence of what is identified as an increasing internationalization of these companies (Marcel, 2006; Stevens, 2008). All of this, I argue, testifies to a continuing *transnationalization* of the global oil market in spite of greater influence for state-owned oil companies. This development points to a broader contradictory dynamic: the renewed importance of the role of the state, and of 'statist capital', within an increasingly transnational, interdependent and interconnected global political economy.

Within the global oil market, power is highly concentrated within a top layer consisting of relatively few companies and a small number of oil elites. The directors of the world's top 10 private oil companies collectively managed almost 1.6 trillion dollars in revenues (Energy Intelligence Group, 2008). In comparison, there were only seven countries in the world with a GDP exceeding that amount in 2008.<sup>2</sup> More importantly, this concentration of power and accumulation of wealth takes place within a sector that is fundamental to the production process in general (see also Labban, 2008) and thus of crucial importance to the broader corporate elite community and their interests. Oil is moreover a 'strategic commodity'; it is crucial to the interests of states, intimately related to national security, and serves as the backbone of every military apparatus in the world. Any challenge to the existing power structures within the global oil order is bound to have vast political, geopolitical and economic impact and holds the potential for substantive conflict but also of change. In addition, there is an ecological dimension to the current fossil fuel-based energy order. In that regard, this study also relates to a broader debate on opportunities and challenges of a transition towards an alternative, more 'sustainable' or 'green' energy order.

Yet, there is very little systematic research into the configuration of social power at the commanding heights of the petroleum sector. This article provides a first step towards such analyses by exploring the networks of social power constituted by the global oil elite, operationalized as the directors of the world's largest oil companies, both state-owned oil majors from the Global South (including Russia) and private oil companies from the West.

The study of the impact of the rising powers from the Global South upon Western corporate circuits, as well as the influence of globalization on the Southern corporations and their leading elites, is still in its infancy. Nevertheless, there is a rapidly growing body of studies focusing on the Asian countries (Li et al., 2006); foreign direct investment (FDI) from the South (Buckley et al., 2007); state-owned enterprises and sovereign wealth funds (Cohen, 2009; Helleiner, 2009; Lavelle, 2008); and state-owned oil companies in particular (Marcel, 2006; Stevens, 2008; Van der Linde, 2000; Vivoda, 2009). However, there has been no study to date that looks at the recent expansion and integration of Southern corporate networks from the perspective of the corporate elites and elite formation.

There is, however, a wide literature on Western corporate elites and class (e.g. Domhoff, 1967, 2009; Heemskerck, 2007; Van Apeldoorn, 2002; Van der Pijl, 1984, 1998). In particular,

Carroll and colleagues (Carroll, 2009; Carroll and Carson, 2003; Carroll and Fennema, 2002; Carroll et al., 2010) provide rigorous empirical accounts, on the basis of social network analysis, of global corporate networks and the conception of a 'transnational capitalist class' (see for the latter, Robinson and Harris, 2000; Sklair, 2001). These studies reveal the national and transnational power structures through which a corporate elite, or class, builds consensus and exercises its power.<sup>3</sup> This power is, first of all, embedded in corporate networks established by interlocking directorates (e.g. Kentor and Jang, 2004) which 'link the key centres of command within the corporate economy' (Carroll, 2010: 7), but also via policy planning bodies such as think-tanks, research institutes, business coalitions, and non-profit organizations (e.g. Domhoff, 1967, 2009; Useem, 1984). The latter provide elite formation with an institutional and societal architecture through which they can formulate and extend their interests and preferred governance beyond the realm of the corporate boardrooms and into civil and political society (Carroll, 2010). At the transnational and global level, such bodies have a crucial role in forging consensus and coalescing interests – amalgamating into a global rule set, generally labelled 'global governance'. In spite of the multilateral character of many of these bodies, they are seen by many critical scholars as highly concentrated platforms of power from which a pre-dominantly Western elite, or 'transnational capitalist class', secures the interests of the more transnational oriented sectors of capital (such as financial capital and large transnational corporations) (e.g. Gill, 1990; Peet, 2007; Van Apeldoorn, 2002; Van der Pijl, 1998).

Within this research tradition there is, however, little empirical analysis of corporate and elite networks within the realm of the oil sector, neither has this been studied in light of the growing influence of the Global South, which Carroll and Carson (2003) still identify as the (semi-) periphery. In fact, the Southern elites do – up to now – hardly appear on the radar screen of this body of research (see Carroll, 2010). The case selection of these studies is often based on the Global 500 companies, which apparently still, to a large extent, excludes the Global South. While this indicates that in terms of a global corporate elite the West is still dominant, the development of the *rising* Southern corporate elites is still a significant phenomenon that needs to be researched.

This study, by providing empirical evidence of the nature and configuration of elite formation at the apex of the oil sector, and the extent to which integration between the West and the rising South has taken place within this domain, aims to contribute to: a) a better understanding of the social organization of power of the world's leading oil elites and how that power is extended beyond the domain of their corporate boards into civil society and politics, and b) more insight into the relations between the Southern oil elites and the Western elite networks, in order to assess the extent to which the Southern oil elites form distinct (and perhaps rival) networks, or have integrated within the Western elite networks and the power structures that they constitute.

## Analysing oil elites

Elite formation does not only take place at the corporate level. This study therefore takes a somewhat different approach from what is generally the case within corporate elite studies. Whereas the usual starting point is a set of companies of which the interlocking directorates are analysed,<sup>4</sup> this study takes the directors of the world's largest oil companies and maps all their affiliations in the following domains: corporate affiliations (including financial capital), policy planning affiliations, and state affiliations. The point of departure hence is not so much the companies, but rather the 'ego networks' of the directors in charge of them. This approach provides a more comprehensive insight into the networks of the oil elites: assessing not only their extent of potential corporate control and economic power, but also their embeddedness and influence within civil and political

society. Below I will elaborate on these different domains and how they are operationalized within this analysis, followed by a method and data section.

The corporate affiliations are analysed by looking at interlocking directorates of the oil company directors. Interlocking directorates provide elites with inter-organization ties that are 'traces' of strategic and allocative power across firms as well as 'expressive, cultural-political relations that build solidarity and trust among leading corporate directors' (Carroll, 2010: 7–8). In the literature on corporate elite networks and how they are transformed by globalization, the tendency towards increased transnational interlocking among the world's largest corporations is generally confirmed. The overall conclusion is, however, that the basic structure of the elite networks are still to a large extent nationally or at least regionally embedded (e.g. Carroll and Fennema, 2002; Kentor and Jang, 2004; Nollert, 2005). Given earlier findings of growing cooperation between the Western and Southern oil majors, and the continuing *transnationalization* of the global energy market, it could be expected that integration at the elite level would follow. On the basis of the corporate interlocks it can both be assessed to what extent the oil elite networks identified in this study are still largely nationally organized or also increasingly transnational and to what extent integration of the Southern oil elites takes place at the corporate level.

Policy planning bodies have been shown to form a crucial part of the formulation and formation of wider business interests and strategies of corporate communities (e.g. Carroll and Carson, 2003; Gill, 1990; Van Apeldoorn, 2002; Van der Pijl, 1998). It is therefore proposed here that linkages to such bodies – which are deliberately broad and loosely defined to include a wide array of think-tanks, business coalitions, policy planning institutes and regulatory/governance bodies – indicate the integration of the oil elites with a broader corporate community, in particular when these linkages are transnational. Connections between the Western and Southern oil elites at this level would be a crucial indication of integration since it would imply access of the Southern elites to the 'heart' of transnational corporate business strategy formulation and representation.

There is a clear state dimension to the global contestation over hydrocarbon resources, not only because states are fundamental to the process of production, but also because of the territorially fixed nature of hydrocarbon resources in combination with the territorially defined global order of sovereign nation-states. States from the perspective of this study are seen as 'state-society complexes' (Cox, 1981) structured by social relations that are rooted in an unequal distribution of economic, social and political power. With the unfolding of globalizing capitalism, these social relations might transcend the territorial realm of the nation state but do not make the latter irrelevant or redundant. On the contrary, even if the neoliberal rationale that accompanied the latest 'phase' of global capital expansion claims to be one of unrestrained market forces and a minimum of state intervention, the state during this process has not so much retreated as many have argued (e.g. Hardt and Negri, 2001) but had its role redefined. In fact, the state is fundamental to the very processes and interests that neoliberalism aims to promote (see also e.g. Harvey, 2003). Corporate elites are argued to form an important nexus in the interrelation between the state and the capital accumulation process. However, it is expected that there are considerable differences between the Western and Southern oil elites in terms of the configuration of their 'state–business relations', not the least because in the case of the latter, the state is often the ultimate owner of the oil companies.

## Method and data

The method that will be used to perform the analyses is social network analysis (SNA). The basic premise and advantage of SNA is that instead of focusing on the units of the system and comparing

their attributes it focuses on the (social) relations amongst those units (Scott, 1991a; Wasserman and Faust, 1994). In that way it allows for an analysis of how individual or collective *agency* is embedded in and at the same time *constructs social structure* (for an extensive recent guide to SNA, see Scott and Carrington, 2011). Apart from enabling the visualization and analysis of social structure, SNA also provides some basic measures which are indicators for social power and influence (Hafner-Burton et al., 2009).<sup>5</sup> The software programme UCINET was used to perform the analyses (Borgatti et al., 2002).

Since no empirical study of this kind exists yet, an original data base had to be constructed. The Petroleum Intelligence Weekly (PIW) annual ranking was chosen as point of departure (Energy Intelligence Group, 2008). The PIW ranking is highly recognized and based upon operational data from over 130 firms; it uses six individual rankings (e.g. oil and gas reserves and production, refinery capacity, product sales volumes) which are added together to determine the position of the firms. The PIW ranking therefore contains a fairly even mix of private and (partly) state-owned oil companies, which together can reasonably be assumed to make up the core of the global oil market. Ten oil companies from the top of this ranking were selected, including an even number of private oil majors from the West, which are commonly labelled ‘international oil companies’ (IOCs), and majority state-owned oil companies from the most important regions of the Global South in terms of their hydrocarbon resources (that means including Russia) – these are generally called ‘national oil companies’ (NOCs).<sup>6</sup> This generated a total *N* of 182 executive and non-executive directors (see Table 1).<sup>7</sup>

Priority was given to the largest and most dominant types of Western IOCs and Southern NOCs because the main interest of this study is elite formation at the apex of the system and the extent of incorporation of the Southern oil elites into the typical Western elite circuits of power. Because of this focus it was decided to prioritize data collection from multiple domains in which elite formation takes place (as described above) rather than to extend the number of cases, that is, to opt for depth rather than breadth. If integration is found at this level then it is a crucial indicator of oil elite integration, because it takes place at the very top of the system. As a consequence, however, this excludes relatively smaller oil companies, lower in the PIW ranking, as well as the ‘hybrid’

**Table 1.** Case selection

Firm	Home country	Type
Saudi Aramco	Saudi Arabia	100% state-owned
National Iranian Oil Company (NIOC)	Iran	100% state-owned
ExxonMobil	USA	IOC
Petróleos de Venezuela, S.A. (PDVSA)	Venezuela	100% state-owned
China National Petroleum Corporation (CNPC)/PetroChina	China	100% state-owned
British Petroleum (BP)	UK	IOC
Royal Dutch Shell	Netherlands/UK	IOC
Chevron	USA	IOC
Total	France	IOC
Gazprom	Russia	50.0023% state-owned
Total <i>N</i> directors		182
Total <i>N</i> IOCs		94
Total <i>N</i> NOCs		88

examples of Western NOCs (e.g. Statoil) and of Southern IOCs (e.g. Lukoil). While it would be very interesting to research the latter 'hybrid' cases, they are clearly exceptions rather than the rule. In order to assess whether these exceptional cases confirm or deviate from the general pattern that can be found by looking at the more dominant types, however, that pattern *first needs to be established*, which is why this study focuses on an analysis of the dominant types.

2007 is taken as year of measurement to make the findings compatible with earlier research on the companies' corporate relations. Whereas this 'static' approach does not provide an analysis of the *trajectory* of integration, it does allow for an analysis of the extent of integration *at a certain point in time*. If little to no integration is found at that point in time, it seems hardly plausible to assume that high levels of integration would have taken place in the past and that the period prior to 2007 would have been one of *disintegration*.

Data on the members of the boards were collected first from the 2007 Annual Reports of the selected oil companies or their SEC filings. These biographical data were then cross-checked and completed with data from financial and corporate databases such as Orbis (Bureau van Dijk), *Business Week*, Hoover's company data base, Lexis Nexis company database, and *Fortune's* profiles. Finally, when there was no precise time indication, the annual reports of the found affiliated companies were screened in order to confirm the actual affiliation. This was also done for the affiliations with the socializing and policy planning organizations and with state affiliations: reports, publications and websites of those affiliations were screened and cross-checked where possible.

## Western and Southern oil elite networks

### Corporate networks

First of all, in terms of board composition of the selected oil companies, of the 182 directors there were *no cases* of Southern directors sitting on the IOC boards, and only six Western directors serving on the NOC boards in 2007.<sup>8</sup> This indicates a substantial lack of West–South integration at the level of oil company board composition. It also shows that although some Western directors do have access to Southern NOC boards, Southern directors *do not yet have access* to Western IOC boards, which implies that the Western directors have more opportunity to exert influence within the South, than the other way around.

Turning to the interlocking directorates it was found that of the total selection of directors 52 percent had interlocking directorates. On the basis of the nationality of those directors it was calculated that 39 percent were Western directors and 13 percent were Southern directors (see Figure 1). In relation to the total number of oil company directors this implies that 71 percent of the Western directors have interlocking directorates (71 out of 100), whereas in the case of the Southern directors this is only 26 percent (23 out of 82). Clearly, the practice of interlocking directorates is, as of yet, much less of a common practice amongst the Southern oil elites than amongst the Western oil elites.

In order to give more insight into the particular nature of these interlocks Figures 2a and 2b give an overview of the transnational and national corporate ties of these interlocking directors.<sup>9</sup>

The Western interlocking directors had 241 national ties (53%) and 133 transnational ties (29%). In the case of the Southern interlocking directors there were 63 national ties (14%) and only 17 transnational ties (4%). This makes clear that the oil elites in general establish more national linkages than transnational linkages and that this applies in particular to the Southern oil elites. Nonetheless, in the case of the Western oil elites, almost 30 percent of their corporate ties are made up of transnational linkages.



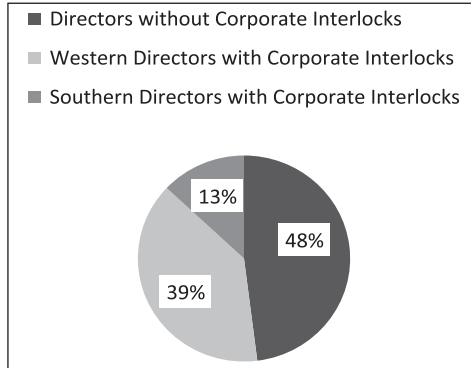
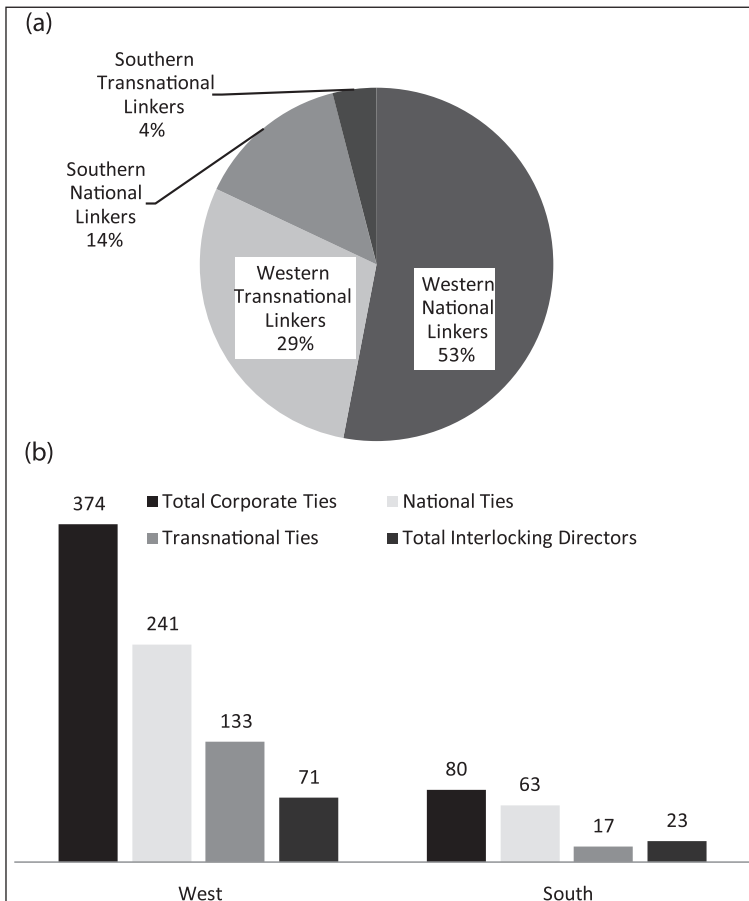


Figure 1. Oil company directors with corporate interlocks.



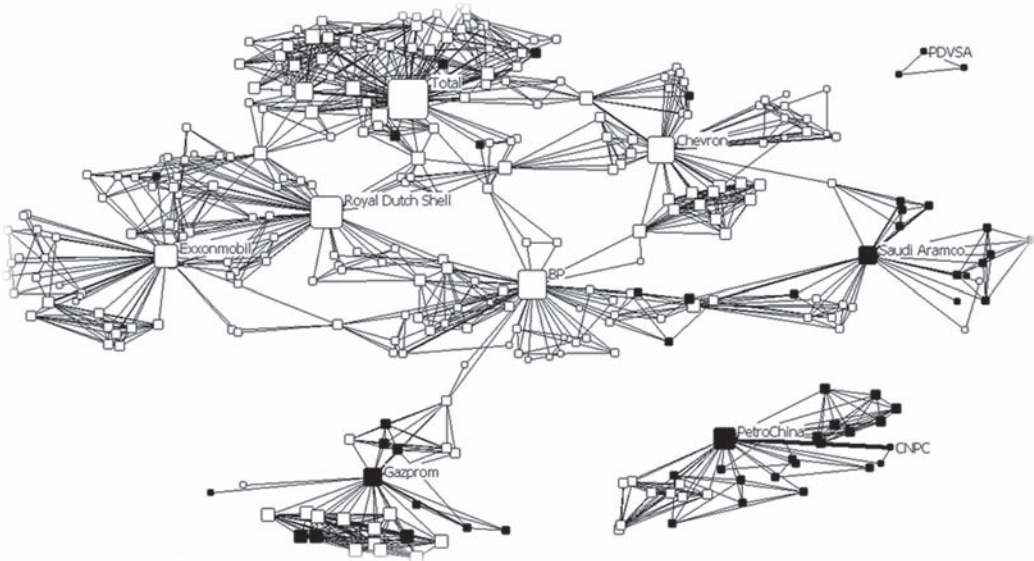
Figures 2a and b. Distribution transnational-national corporate ties. Sources: Annual reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis.



These findings show that although the oil elites are predominantly nationally connected to the corporate world, a subgroup of them does have a substantial number of transnational corporate ties and connections. In that sense, the pattern found here, at least for part of the oil elites, does seem to confirm the general finding in the literature of a transnational corporate ‘superstructure’ resting on firm nationally integrated bases (e.g. Carroll and Fennema, 2002). What this study shows in addition to that general finding is that the Southern oil elites are still *almost exclusively nationally connected* in terms of corporate ties: with only a few transnational corporate linkages (4%) there is little integration into a transnational ‘superstructure’.

Whereas these findings give insights into the accumulated number and distribution of ties of the directors of the selected NOCs and IOCs, it does not reveal who has ties to whom – i.e. *if and how* they are connected – and to what extent, through these ties, there is integration between the networks of these NOC and IOC boards. This can be done by looking at the networks that are created by the corporate interlocks of these oil company directors in 2007. Figure 3 shows the complete network of companies.<sup>10</sup>

First of all, the graph in Figure 3 makes clear that the corporate network of these oil elites consists of three components. Whereas the major IOCs ExxonMobil, Royal Dutch Shell, Total, BP and Chevron are connected to each other, as well as to the NOCs Saudi Aramco and Gazprom, PDVSA (in the upper right corner) and CNPC and PetroChina (in the lower right corner) form two separate clusters disconnected from the main component. Components of a network are parts that are connected within but disconnected between other parts of the graph. The lack of integration between these IOCs and NOCs is hence clearly illustrated by this graph. Whereas all the IOCs are indirectly connected to each other through corporate interlocks of their board members, the NOC clusters of



**Figure 3.** Corporate network of the Western and Southern oil elites.

Key: White squares: Western companies; black squares: Southern companies; node size: degree (number) of outgoing/incoming ties; tie strength: number of ties between each pair of companies; major NOCs and IOCs are labelled.

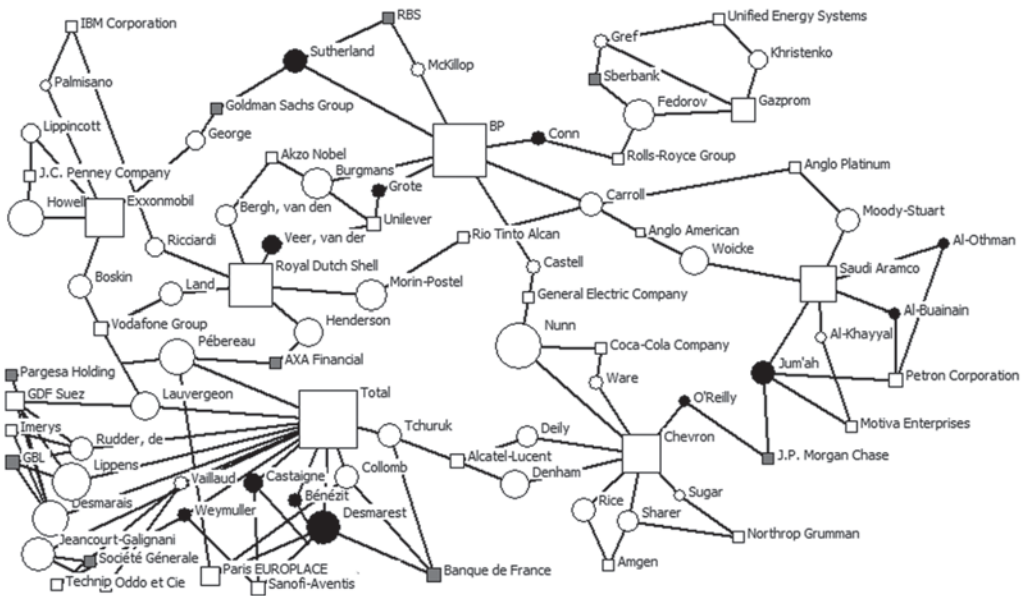
Sources: Annual reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis.

PDVSA and CNPC/PetroChina are entirely disconnected both from each other and from the IOC network. Since NIOC, the Iranian NOC, had no directors with interlocking directorates, it is not part of this network at all. Gazprom and Saudi Aramco, however, are two NOCs that are not isolated components but are indirectly connected to the IOC network, although – as will be shown later – only through a few weak ties. Second, the graph illustrates a lack of integration through corporate interlocking between the South and the West in general. Within the Western component Southern companies (black squares) are hardly present, and within the Southern parts, there are only a few clusters of Western companies (white squares). In the network surrounding Gazprom there seems to be the most integration in this respect.

Now that a first broad outline of the structure of the network has been generated, the nature of these connections will be more closely analysed. What are the meeting places of the oil elites, what are the main channels of cooperation and communication, how strong are these ties and who are the central actors?

Figure 4 gives the two-mode network, that is, displaying both directors and companies (see note 10 for explanation) of the main component, only including the ‘big oil linkers’ (corporate directors with at least three board memberships) which is a total of 46 directors. In this graph companies are only displayed if they are connected to each other through actors having positions at their boards; in other words, this shows the *corporate meeting places* of the ‘big oil linkers’.<sup>11</sup>

A distinction is made between executive and non-executive directors, given their very different relations to the company. Executives are much more closely involved in the day-to-day strategy and operations of the company, whereas non-executives have a more distant, monitoring, advisory relation to the company. Although most of the ‘big oil linkers’ have a non-executive position at



**Figure 4.** Corporate meeting places of the ‘big oil linkers’ 2007.  
 Key: Squares: companies; grey squares: financial companies; circles: actors; black circles: executive director; white circles: non-executive director; node size: degree.

Sources: Annual Reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis.

their oil company, some prominent oil executives are part of this circle of 'big oil linkers', such as Shell's CEO Van der Veer, Saudi Aramco's President and CEO Jum'ah, and BP's Chairman Sutherland.<sup>12</sup> Moreover, it should be noted that most of these 'big oil linkers', even if they are not executives on the board of one of the major oil companies, do have at least one executive position in another company connected to this network.

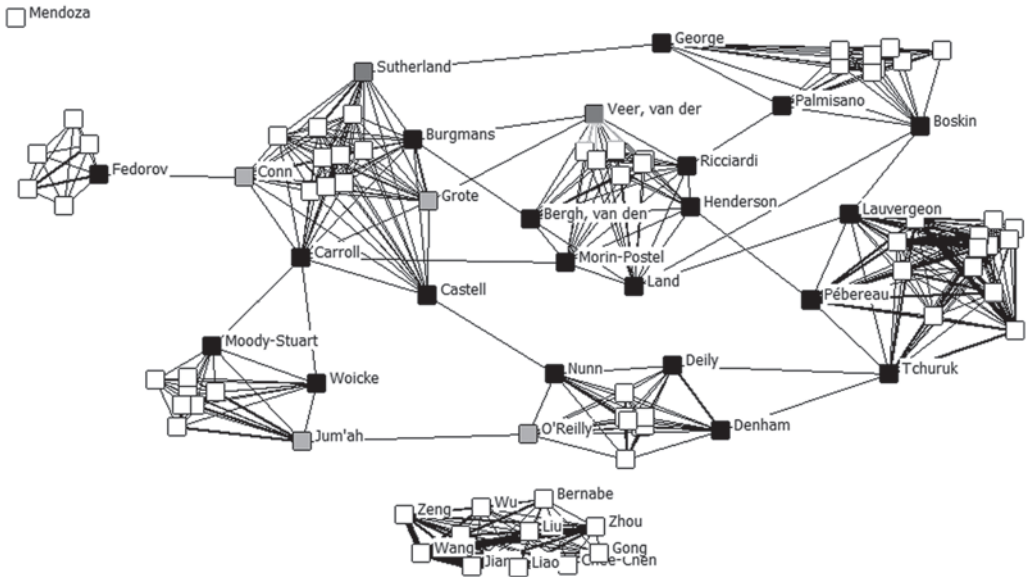
The major oil companies in this network are all indirectly connected through at least one director sharing a board membership at an intermediate company. There are even three (indirect) connections between Royal Dutch Shell and BP, and they have one executive each at the board of Unilever, which seems to suggest a strong connection and exchange of influence between the boards of these British/Dutch companies. Total reveals the most extensive and strong ties, with as many as four executives and a total of 13 directors establishing interlocking directorates, constituting what seems to be a quite cohesive French-Belgium cluster. BP, however, has the most (indirect) connections to the other IOCs and NOCs. In fact BP is (indirectly) connected to all other oil companies within this component, except Total, and is the only IOC (indirectly) connected to both Gazprom and Saudi Aramco.

If we look at the 'geodesic distances' (that is, the shortest paths between two actors) in this graph, it is interesting to see that Saudi Aramco directors are much 'closer' to the other IOCs in this sample than Gazprom directors; the former is only two steps away from BP and Chevron and three steps from Shell, whereas Gazprom is two steps away from BP as well, but four steps away from all the other oil companies and even six steps away from Total. Of all the IOCs, BP clearly has the most close connections – in terms of geodesic distance – to the other oil companies in the network; with the exception of Total it is only two steps distant from all other companies.<sup>13</sup>

In general this group of 'big oil linkers' – aside from the national networks that they establish – are collectively spanning a transnational network including a selection of the world's major TNCs, and global financial players. Apart from other petroleum companies (such as GDF Suez, Motiva Enterprises) and major extractive industry firms (e.g. Rio Tinto, Anglo American) a selection of the world's key TNCs are connected to this network, such as: Unilever, Vodafone, IBM, Northrop Grumman, Rolls Royce Group, Coca Cola, General Electric and Alcatel-Lucent. Also some of the global financial giants are connected to this network, such as Goldman Sachs, Royal Bank of Scotland (RBS), J.P. Morgan Chase, Société General, Banque de France, AXA Finance and Groupe Bruxelles Lambert (GBL). These 'big oil linkers' thus form a transnational network of corporate meeting places that provides them with a platform for information sharing, exchange of ideas and views and coordination of interests, not only amongst each other, but also with a broader transnational corporate community (see, with respect to the latter, also the findings in Carroll, 2010). But who are these 'big oil linkers' and how are they positioned within the broader network?

Figure 5 shows a one-mode network of all the interlocking directors (a total of 94, see Figure 2b), that is, those directors that make up the 'inner circle' of the oil elite (Useem, 1984).<sup>14</sup> Inner circle directors with a 'broker' position<sup>15</sup> are labelled and those with an executive position at one of the major oil companies within our selection are coloured grey. Thus, the graph in Figure 5 immediately reveals that some of the major executives of the selected oil companies have important broker positions within this inner circle. The size of the nodes expresses the number of board memberships per director. In SNA this is called the 'degree' of an actor and it is seen as a measure of centrality, indicating the extent of access and potential influence and opportunities of an actor, that is, 'access power' (Hafner-Burton et al., 2009). The Total directors have the highest degree, all range between 17 and 12, while the other oil company directors all have a degree between 9 and 3.

Summarizing the findings above, it can be concluded that a substantial part of the oil elites (46 out of 182) are embedded into a wider corporate elite network interlocking some of the world's largest TNCs in several core industries (extractive industries, car industry, defence, technology)



**Figure 5.** Oil elites inner circle.  
 Key: Labeled squares: broker position; grey squares: executive directors.

Note: The directors in the disconnected Chinese subgroup (middle below) and Mendoza, a PDVSA director, (upper left), are also labelled for reasons of identification.

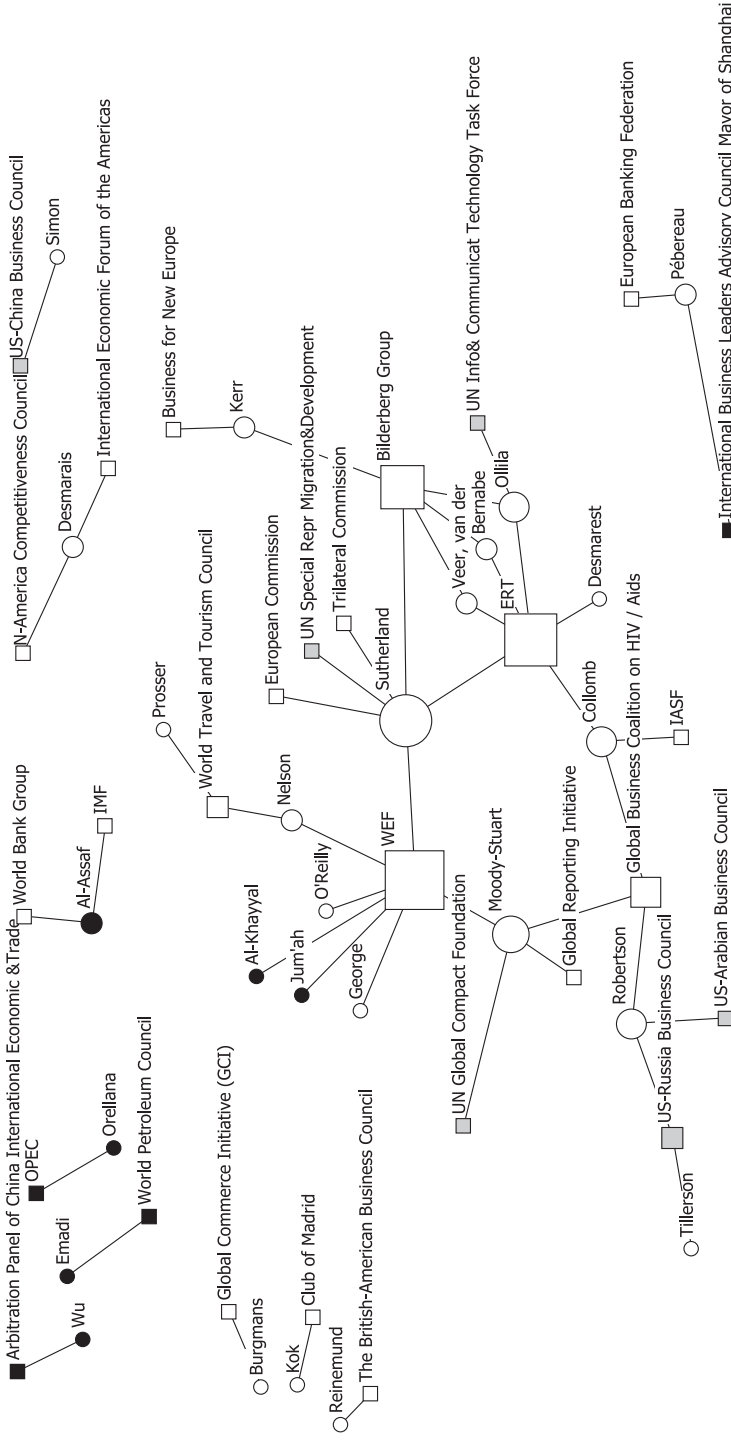
Sources: Annual reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis.

and link key players of global financial capital with the selected major oil companies. They hold between 17 and three corporate board memberships simultaneously, with often at least one executive function. This pattern, however, applies almost exclusively to the Western oil elites. The Southern oil elites emerge as four separate components, of which only Gazprom and Saudi Aramco are (indirectly) connected to the Western corporate network. Gazprom, however, has only one connection, and two out of the three connections of Saudi Aramco are established by Western directors. Some of these Southern oil elites (e.g. Jum’ah and Fedorov) however have important and influential broker positions and hence provide potentially crucial bridging positions between the West and the South. However, in the case of CNPC, PetroChina, NIOC and PDVSA there are no connections at all to the corporate networks established by the other oil company directors.

It can be concluded that, as of yet, there has been very little integration on the part of the Southern oil elites into wider transnational corporate elite networks or business communities through interlocking directorates. These findings also indicate that the Southern oil elites have very little access to these transnational corporate networks and potentially little influence. Moreover, the data seem to imply significantly less basis for – and occurrence of – joint formulation and coordination of wider corporate interests at a transnational level by Southern oil elites. In the next subsection it will be assessed to what extent and how oil elite formation and integration has taken place beyond the realm of corporate boards.

**Policy planning networks**

From the total of 182 oil company directors only 26 turned out to have affiliations with 28 different transnational policy planning organizations in 2007, which are shown in the graph in Figure 6.<sup>16</sup>



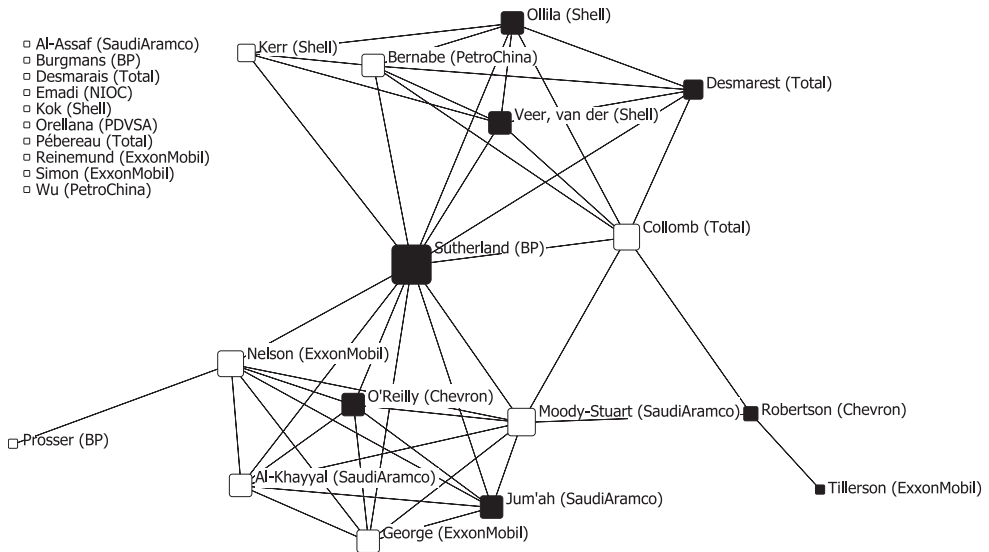
**Figure 6.** Policy planning affiliations of the oil elites 2007.  
 Key: Squares: policy planning organizations; circles: directors; white nodes: Western; black nodes: Southern; grey nodes: cutting across Western/Southern divide.

Note: There are also several organizations that call themselves global which are nonetheless labelled as Western organizations since they clearly originate from and are initiated within the West.

Sources: Annual reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis..

Amongst them there is a near complete absence of Southern transnational organizations, directors and ties. We find a clear Western cluster of transnational ties between mostly IOC directors and transnational planning and regulatory bodies, with the European Roundtable of Industrialists (ERT), the World Economic Forum (WEF), the Bilderberg Group at its core and connected to these: for example, the Trilateral Commission, the Global Business Coalition Against Aids/HIV, the US-Russia Business Council, the International Accounting Standards Foundation (IASF), and some UN organizations. It should be noted that there is a wide variety of aims and means amongst the included organizations and that they cannot be simply compared. Clearly, there is a difference between the ERT or the WEF and, for instance, UN organizations or the IASF. When adopting the definition of transnational policy planning bodies, however, this was deliberately defined quite broadly and inclusively (see above), because it aims to include all sorts of formal and informal socializing platforms where business coordination of some kind is assumed to take place.

Big linkers in this network are Sutherland (Chairman BP); Moody-Stuart (Saudi Aramco director and previously director at Shell); Collomb (Total); Ollila (Shell) and Robertson (Chevron), i.e. *all Western directors*. The only Southern directors connected to this component are Al-Khayyal and Jum'ah (Saudi Aramco), Al-Khayyal as a participant of WEF in 2007 and Jum'ah as member of the WEF International Business Council.<sup>17</sup> The other two NOC board members that are connected to this component: Sir Moody-Stuart (Saudi Aramco) and Bernabe (PetroChina), are both Western. These actors are, however, important brokers between this transnational Western network and the Southern elites. Another actor providing such a possible 'bridge' is Al-Assaf (Saudi Aramco) who is Governor for Saudi Arabia in both the IMF and the World Bank Group. They are few, however, and they almost all point to a connection to Saudi Aramco, which might not be surprising given the long-time close alliance between that company and the West, especially with the US. Figure 7 shows how these oil elites are connected to each other through these bodies.



**Figure 7.** Oil elite connections through transnational policy planning organizations.

Key: Black squares: executives; node size: degree.

Note: Isolates in the upper left corner are oil company directors who are affiliated with transnational planning organizations but not connected to other directors.

Sources: Annual reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis.



An interesting aspect revealed by the graph in Figure 7 is that half of the directors connected through this transnational network have executive positions, in fact, seven of them at the level of CEO and/or Chairman. These findings indicate that a significant number of the key oil executives from the world's major IOCs and from Saudi Aramco are closely connected through a transnational network constituted by what in the literature is recognized as some of the most central and influential transnational bodies critical to the formation and formulation of transnational capital and capitalist class interests and strategies (see e.g. Carroll, 2010; Gill, 1990; Van Apeldoorn, 2002; Van der Pijl, 1984). The fact that they are connected to and through these bodies suggests an exchange of views, ideas and information and a coordination of interests. These might not be the particular interests of the oil companies that they represent, but rather – as is often suggested – a broader business community interest. This is confirmed by the fact that indeed, many of the ‘institutional big linkers’ are also ‘corporate big linkers’, most of them with brokerage positions within the corporate ‘inner circle’ (see Figure 6).

Even more significant is the finding that the Southern oil elites have very few connections to this broader transnational network (although for some of these organizations, such as the ERT and the Trilateral Commission, this is of course rather logical). Apparently, at this level of elite cooperation, the Southern oil elites do not yet participate and integrate – except for some Saudi Aramco directors – nor do they form any alternative transnational networks themselves. But this does not preclude the possibility that the Southern elites might have other meeting places and networks that they use for a broader exchange of views and ideas and a coordination of corporate interests. One domain that stands out in this respect is the state, to which the analysis turns next.

### *State–business relations of the oil elites*

In order to assess the relation between the oil elites and the state, all state affiliations of the NOC and IOC board members were mapped. Included also were political affiliations (i.e. political activities that did not involve formal positions within the state apparatus) and military affiliations. The results for 2007 are shown in Table 2.

In 2007 six IOC directors turned out to have simultaneous engagement at the state level (a total of seven interlocks). The major NOCs in this selection, however, had 27 directors *simultaneously*

**Table 2.** State positions of the oil elites in 2007

	Total positions	State	Political	Military	N directors
Saudi Aramco	22	21	0	1	6
PetroChina	8	5	3	0	7
PDVSA	6	4	0	2	5
Gazprom	4	4	0	0	4
NIOC	3	3	0	0	3
CNPC	3	1	2	0	2
Total	2	2	0	0	2
Royal Dutch Shell	2	2	0	0	2
Exxon Mobil	2	2	0		1
BP	1	1	0	0	1
Chevron	0	0	0	0	0

Sources: Annual reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis.



at positions at state level (a total of 46 state interlocks), pointing to a much more direct and extensive set of relations. Moreover, when the *actual positions* that the interlocking directors inhabited are taken into account, it shows that in the case of the IOC directors, the simultaneous positions only involved *advisory positions* within state bodies (an overview of all 2007 state positions can be found in Appendix Table 4). In the case of the NOCs, however, the directors had high-ranked state positions, often even at a ministerial or vice-ministerial level. PDVSA directors were for instance simultaneously ‘Minister of Popular Power for Energy and Oil’; Gazprom directors were also ‘Minister of Petroleum’. NIOCs directors held positions as ‘Minister for Economic Development and Trade’ and ‘First Deputy Prime Minister’, and Saudi Aramco’s directors had positions ranking from ‘Minister of Petroleum and Natural Resources’ to ‘Secretary General of the Supreme Economic Council’. The state in these cases, therefore, is not only the ultimate owner of the corporation, but the actors in charge of these majors are moreover themselves *state executives at often high-level positions*. This confirms that the Southern oil elites are also very explicitly ‘statist’ elites, whereas the Western oil elite members have more indirect connections to the state: while they do advise states on policy, they operate more ‘independently’ from them.<sup>18</sup>

## Conclusion

This article set out to provide a better understanding and empirical underpinning of the organization of social power at the commanding heights of the oil sector in light of the wider transformation that is taking place in the global oil market due to the rising powers from the Global South, in particular the expansion and integration of the Southern state-owned oil companies. This was done by analysing the affiliation networks of the directors of the world’s largest National and International Oil Companies (NOCs and IOCs) within several domains: corporate networks, policy planning networks, and state–business networks. It has been assessed to what extent the directors of the world’s major oil companies are integrated into wider elite networks at both a national and at a transnational level, and if so, how the Southern oil elites are related to the Western oil elite networks, that is, to what extent they have integrated into, or differ from, the circuits of the Western corporate elite.

First of all, it is found that in terms of board composition there was very little West–South integration. No Southern directors were found on Western oil company boards, and only six Western directors were present on Southern oil company boards. The practice of interlocking directorates was in general much less common within the Southern oil elite, only 13 percent of those directors had interlocking ties to other companies. Within the Western oil elite however, this proportion was quite high, 39 percent. In terms of a distribution of national and transnational ties, the national ties clearly dominated, which confirms the general findings in the literature of a transnational corporate superstructure embedded in strong corporate national bases. Nonetheless, 29 percent of all corporate ties consisted of transnational linkages; indeed, a substantial number of the Western oil elites – involving some of the key executives of the major IOCs – are closely linked to a network of large transnational corporations and financial capital. These ‘big oil linkers’ hold between 17 and three corporate board memberships simultaneously, with often at least one executive function. This pattern, however, applies almost exclusively to the Western oil elites. In the case of the Southern oil elites, transnational ties were nearly absent (4%). Hence very little transnational integration is found through corporate connections of Southern oil elites, and almost no integration seems to have taken place between the South and the West in this respect. Exceptions are Gazprom and Saudi Aramco that do have a few directors at potentially influential bridging positions with ties to the transnational corporate network; however, these directors in many cases turned out to be Western directors.

Also within the domain of policy planning organizations little integration between the Southern and Western oil elites is found. A small number of the Western oil elites generate a dominantly Western subgroup, with their meeting places being some well-known transnational bodies – such as the ERT, the WEF, the Bilderberg Group and the Trilateral Commission – that are core platforms for the organization of the wider transnational business community. The Southern oil elites of the major NOCs are however hardly connected to this transnational network – with again the exception of Saudi Aramco – and do not form transnational policy planning networks themselves.

When looking at differences between the Southern and Western oil elites in terms of state affiliations it was confirmed that the former is a ‘statist elite’ *par excellence*, with the NOC directors holding high profile state positions, often at ministerial or vice ministerial level, whereas the Western oil elites demonstrate a more indirect pattern of state involvement, confirming the ‘revolving door mechanism’, and in the actual cases of an overlap, the predominance of advisory positions at state level.

Overall, this analysis makes clear that the differences between the Western and Southern oil elites are still very large in terms of the relational patterns analysed, that is, the practice of interlocking directorates, affiliations with transnational policy planning bodies and their affiliations with the state. Whereas the Western oil elites inhabit a core place within a global or transnational corporate elite, as they interlink not only with powerful transnational capital groups but also with central transnational policy planning networks and have an advisory relation to the state and state policy, the Southern oil elites are barely connected to these Western corporate and civil society networks and do not form any similar alternative networks themselves. Instead the Southern oil elites ‘state–business relations’ indicate very distinct forms of elite cooperation, intimately related to the state apparatus, in fact, holding simultaneously high executive positions within the state and the major NOCs.

The Southern oil elites thus still seem to have little access to and influence within the typical Western elite and business circuits. Yet, it remains an open question whether this is the case because Southern elites are not *allowed* access, or whether they do not *want* access and prefer to develop alternative power structures. It might indeed be the case that the Western elite power structures are becoming less attractive and perhaps less influential themselves.

In sum, these results make clear that whereas the Southern oil elites are increasingly active within the West in terms of business activity, and are directing a major expansion of their NOCs – which at the same time generates increased cooperation with Western private oil majors – these developments have not yet led to South–West integration at the level of elite formation. While it is impossible to predict what the precise direction of these developments will be, it does seem to imply a transition towards a more multi-polar oil order, no longer structured by a Western ‘core’ dominating the Southern ‘periphery’, including more hybrid forms of cooperation and coalitions of interests, and a possible diffusion of corporate and elite power at the global level.

To what extent this transition towards multi-polarity will fundamentally challenge the liberal market-based constitution of the current oil order is questionable. It might well be that the rising Southern elites will largely adapt to its ‘rules of the game’, that is, a deepening of capitalist discipline and neoliberal market mechanisms; but it might also lead to a re-definition of the role of the state and its relation to capital. Irrespective of that, however, there is a geopolitical dimension to this development given by the fact that the global political economy is still spatially divided by territorially defined states. Indeed, in spite of increased cooperation and integration at the corporate level and the existence of a Western *transnational* oil elite network, the *national* oil elites and corporate networks persist, as confirmed by this study. Even in a scenario

of increasing levels of transnational integration and with the Southern oil elites largely adapting to the liberal market based 'rules of the game', a more multi-polar oil order will hold the potential of geopolitical conflict, not only because such a transformation might challenge the dominance of the West, but also because this is inherent in a global oil order constituted by territorially defined sovereign states.

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### Appendix: Oil elite networks in a transforming global oil market

**Appendix Table 1.** Overview positions in global and transnational organizations 2007 – selection of oil elites

Name	Oil company	Global or transnational organization	Function
Al-Assaf	Saudi Aramco	World Bank Group IMF	Governor for Saudi Arabia Governor for Saudi Arabia
Al-Khayyal	Saudi Aramco	World Economic Forum	Participant
Bernabe	PetroChina	European Roundtable of Industrialists (ERT)	Member
Collomb	Total	International Accounting Standards Foundation (IASF) European Roundtable of Industrialists (ERT)	Trustee Member
Jum'ah	Saudi Aramco	Global Business Coalition Against HIV/Aids World Economic Forum – International Business Council	Vice Chairman Energy Community Leader
Moody-Stuart	Saudi Aramco	UN Global Compact Foundation Global Business Coalition Against HIV/Aids World Economic Forum	Director Co-Chairman Member Steering committee Responsible for Driving the Global Governance
O'Reilly	Chevron	Global Reporting Initiative World Economic Forum – International Business Council	Director Director
Robertson	Chevron	US-Russia Business Council Global Business Coalition Against HIV/Aids US-Arabian Business Council	Director Director Director
Sutherland	BP	Bilderberg Group UN Special Representative for Migration and Development	Steering Committee Special Representative

(Continued)

**Appendix Table 1.** (Continued)

Name	Oil company	Global or transnational organization	Function
		European Commission	Member Advisory Group President Barroso energy & climate change
		World Economic Forum	Member Foundation Board
		Trilateral Commission	Chairman Europe
		European Roundtable of Industrialists (ERT)	Vice Chairman

**Appendix Table 2.** State affiliations oil elites, including historical positions

	Total	State	Political	Mil	N
BP	1	1	0	0	1
NIOC	3	3	0	0	3
Exxon Mobil	2	2	0		1
PDVSA	6	4	2	0	5
Total	2	2	0	0	2
Royal Dutch Shell	2	2	0	0	2
Chevron	20	9	10	1	7
Saudi Aramco	22	21	0	1	6
PetroChina	8	5	3	0	7
CNPC	3	1	2	0	2
Gazprom	4	4	0	0	4

**Appendix Table 3.** Examples of 'revolving door' biographies

IOC Director	Selection of former positions, state and business
Lord Levene Director of Total (2003–2008)	Lord Mayor of London (1998–1999), Advisor to the Prime Minister (1992–1997), Permanent Secretary Chief of Defence Procurement (1981–1987), Vice Chairman Deutsche Bank UK (1999–2001), Senior Advisor Morgan Stanley (1996–1998), Chairman Lloyds (2002–2007) and General Dynamics UK (2001–2008), and Director China Construction Bank (2006–2007)
John Kerr Director of Royal Dutch Shell (since 2004)	UK Permanent Representative to the EU (1990–1995), British Ambassador to the USA (1995–1997), Foreign and Commonwealth Office Permanent Under Secretary of State (1997–2002), Secretary General EU Constitutional Treaty Convention (2002–2003), and non-executive director at both Rio Tinto plc (2003–2007) and Scottish American Investment Company (since 2002)
Wim Kok Director of Royal Dutch Shell (2003–2011)	Prime Minister of the Netherlands (1994–2002), Minister of Finance (1989–1993), Member of the Lower House of Parliament and parliamentary leader of the Labour Party (1986–1998), Supervisor at Royal Dutch Petroleum (2003–2005) and at KLM, TNT and Stork NV

**Appendix Table 4.** Overview state position of oil elites 2007

Oil company	Name	State affiliation
BP	Massey	Member of President Bush's Council of Advisors on Science and Technology
CNPC	Jiang J.	17th CPC Central Committee, Alternate Member
CNPC	Li X.	Yunnan Province Vice Governor (since 2002 Assistant Governor)
Exxon Mobil	Boskin	Commerce Department, Advisory Comm. National Income & Product Accounts, Member Congressional Budget Office Panel of Advisors
Gazprom	Gref	Minister for Economic Development and Trade
Gazprom	Khristenko	Minister for Industry and Energy
Gazprom	Medvedev	First Deputy Prime Minister
Gazprom	Yusufov	Special Repr. of the President for Intern Energy Coop., Special Envoy Ministry Foreign Affairs
NIOC	Bakhshian	Deputy Minister of Human Resources, Ministry of Petroleum
NIOC	Jashnsaz	Deputy Oil Minister
NIOC	Nozari	Minister of Petroleum (or Oil Minister)
PDVSA	Carreno	Minister of Popular Power for Energy and Oil
PDSVA	Mendoza	General of the Venezuelan Armed Forces; Council of Defense Secretary; Dir. Office President
PDVSA	Mommer	Vice Minister of Hydrocarbons
PDVSA	Orellana	Executive Assistant to the Minister of Popular Power for Energy and Oil Ministry of Popular Power for Energy and Oil; Director General of Hydrocarbons
PDVSA	Rodriguez	General of the Venezuelan Armed Forces
PetroChina	Gong	Accountant Standard Committee under Ministry of Finance – Member
PetroChina	Jiang F.	17th CPC Central Committee – Alternate Member
PetroChina	Li H.	Tenth Chinese People's Consultative Conference – Standing member
PetroChina	Li Y.	Deputy Director Liaison Office of the Central Government, Region of Macau
PetroChina	Liu	Subcomm. for Economic Affairs of the National Comm. of the Chinese People – Vice Chair
PetroChina	Wu	Supreme People's Court of China, Expert consultant
PetroChina	Zheng	Counselor of the State Council
Royal Dutch Shell	Kerr	House of the Lords (UK) Independent Member and EU select Committee
Royal Dutch Shell	Voser	Swiss Federal Auditor Oversight Authority
Saudi Aramco	Al-Assaf	Minister of Finance Higher Advisory Council for Petroleum and Minerals Member Manpower Council – Member

*(Continued)*

**Appendix Table 4.** (Continued)

Oil company	Name	State affiliation
		Public Investments Fund – Chairman The Saudi Fund for Development – Chairman Civil Service Council – Member Higher Council for Civil Defence – Member Supreme Economic Council, Member and Vice Chairman of its Standing Committee General Investment Authority Supreme Commission for Tourism – Board member Council of Civil Service Member Military Service Council – Member Higher Committee for Administrative Reform – Vice Chairman Real Estate Development Fund – Chairman Pension and Retirement Fund – Chairman
Saudi Aramco	Al-Naimi	Minister of Petroleum and Mineral Resources
Saudi Aramco	Al-Suwaiyel	Governor of the Communications and Information Technology Commission KACST President of KACST, holding rank of a Minister from 1 July 2007
Saudi Aramco	Al- Tuwaijiri	Supreme Economic Council (chaired by King Abdullah) – Secretary-General
Saudi Aramco	Jum'ah	Member Supreme Committee of KACST Director Saudi Arabian Supreme Council of Petroleum and Mineral Affairs
Total	Desmarais	Economic Consultative Council Member (directed by Minister Flaherty)
Total	Levene	House of Lords Select Committee for Economic Affairs – Member

Sources: Annual reports of the connected companies, SEC filings, Orbis (Bureau van Dijk), Lexis Nexis.

## Notes

1. The Global South generally refers to countries in Africa, Central and Latin American, the Middle East and Asia. In this article it is used to refer to a heterogeneous group of states that are elsewhere also labelled 'emerging economies/markets', non-OECD countries, or the BRICs (Brazil, Russia, India, China), and to distinguish them from the West, which in this case refers to the US and Western Europe. It should be noted however that geographically this terminology is not entirely correct because in the case of the oil sector Russia should be (and is) included although it is not a Southern state; moreover, the general term Global South refers mostly to economically vulnerable states with few resources, whereas the subject of this article is increasingly powerful states within these regions that are challenging Western dominance. In spite of these limitations, the distinction of the West vis-à-vis the Global South will be maintained within this study for lack of a better alternative and to avoid increasing the conceptual confusion by adding yet another terminology.
2. The following countries had a GDP in 2009 that was above the combined total revenue of Exxon Mobil, BP, Shell, Total, Conoco Phillips and Chevron: USA 14.2 trillion, Japan 5 trillion, China 4.9 trillion, Germany 3.3

trillion, France 2.6 trillion, UK 2.2 trillion, Italy 2.1 trillion (The World Bank: World Development Indicators Database 2009, <http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP.pdf>).

3. Although often used interchangeably there is an important distinction between 'class' and 'elite', the most essential difference being that class entails the fundamentally conflicting relation between capital and labour rooted in (private) property relations. According to Carroll (2009), the corporate elite entails the *top tier* of the capitalist class; the analysis of corporate elites thus would shed light on the top tier of its organization.
4. Interlocking directorates are linkages among corporations created by individuals who sit on two or more corporate boards.
5. It should be noted that these are indicators of *potential* influence and power; actual power and the way it is exercised ultimately depends on the nature of the node, the kind of tie and so forth. Although there is ample literature on basic power structures that can be identified within networks, as well as theories on the power dynamics that can be derived from these structures (see also Borgatti and Foster, 2003; Fennema and Schijf, 1979; Scott, 1991b), there is also severe criticism of these kind of network studies. Pettigrew (1992), in particular, criticizes the focus on structural properties of the networks and suggests to instead analyse the content of the ties, their development and use.
6. It should be noted that the terms 'national' and 'international oil companies' have several shortcomings: 1) in spite of their name their core business also includes other forms of hydrocarbons, such as gas; 2) the major IOCs and NOCs are to a very large extent essentially *transnational* corporations; 3) the term 'national oil company' is used to denote both fully state-owned as well as partly state-owned oil companies such as Gazprom. In spite of these shortcomings the usage of these terms will be maintained in this article since these are the most commonly used and known in the literature. Although it would be a worthwhile endeavour to provide a more apt terminology and conceptualization of these different types of companies, the main focus of this article is on the actors in charge of these different types of companies and not an investigation into the corporate structure of the companies themselves.
7. PetroChina's board is included – in spite of it being majority owned by CNPC (86% of the shares) and showing substantial overlap in terms of board membership – because of the size and importance of the firm, which is publicly listed. Since 2008 it has been the world's number two in terms of market capitalization, under Exxon Mobil (*Financial Times* Global 500, <http://media.ft.com/cms/eee5847a-9085-11dd-8abb-0000779fd18c.pdf>).
8. The nationality of the directors was taken to define whether they belong to the West or the South.
9. A national corporate tie in this case means that an oil company director sits on another board of his own nationality, whereas a transnational corporate tie means that an oil company director sits on another board of a different nationality than his own.
10. In SNA terms this is a 'one-mode network' transposed from the 'two-mode network'. A 'two mode network' includes both the actors (in this case IOC and NOC board members in 2007) and what is in SNA parlance is called the 'events' (in this case the interlocks that they form through positions at other boards). In a transposed 'one mode network', the nodes represent only the actors (or the 'events'), whereas the lines between the nodes represent the connecting 'events' (or the actors).
11. Other companies to which these directors are connected are hence not displayed. The size of the nodes however does reflect the total number of ties, and thus still gives an impression of the overall 'degree' of the actors and companies.
12. The latter is included – although he is a non-executive Chairman – because of the senior and influential role in terms of corporate management of the non-executive chairman in the British corporate governance system.
13. The author would like to thank Roy Barnes for highlighting this point.
14. Useem defined as the 'inner circle' those directors that serve at two or more large corporate boards (1984: 64).
15. Being a 'broker', that is the only connection between two subgroups of the network, potentially gives an actor particular influence, because it gives privileged access to a subgroup to which other actors are not connected (e.g. Granovetter, 1973).



16. It should, however, be noted that the affiliations were mapped on the basis of public reports and documents, and not on the basis of self-reporting, the number of affiliations hence might be larger in reality.
17. For a full overview of the positions of the big linkers, see Appendix Table 1.
18. The fact that there is such an indirect relation in terms of interlocks between the state and the major oil company directors within the West was confirmed when the 'revolving door' mechanism (i.e. a persistent pattern of state positions interchanged with corporate positions) was taken into account, by including historical positions. This increased the number of the IOC directors with position(s) at state level at some time in their career to 25, with a total of 61 statist interlocks. For the NOC directors it brought their numbers to 62, establishing a total of 142 statist interlocks (for an overview of the historical positions and revolving door biographies, see Appendix Tables 2 and 3).

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