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**Working Paper**

## IFFs and Commodity Trading: Opportunities for Identifying Risks in Energy Traders' Financial Conduct Using Groups' Corporate Filings

CITYPERC Working Paper, No. 2021-03

**Provided in Cooperation with:**

City Political Economy Research Centre (CITYPERC), City, University of London

*Suggested Citation:* Nesvetailova, Anastasia; Palan, Ronen; Petersen, Hannah; Phillips, Richard (2021) : IFFs and Commodity Trading: Opportunities for Identifying Risks in Energy Traders' Financial Conduct Using Groups' Corporate Filings, CITYPERC Working Paper, No. 2021-03, City, University of London, City Political Economy Research Centre (CITYPERC), London

This Version is available at:

<https://hdl.handle.net/10419/251260>

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January 2021

**IFFs AND COMMODITY TRADING:  
OPPORTUNITIES FOR IDENTIFYING RISKS IN ENERGY  
TRADERS' FINANCIAL CONDUCT USING GROUPS'  
CORPORATE FILINGS**

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City, University of London**

This working paper forms part of a multi-year programme of work on 'Illicit Financial Flows and Oil Commodity Trading' under the auspices of the Anti-Corruption Task Team (ACTT) a subsidiary of the OECD Development Assistance Committee. Working Papers describe preliminary results or research in progress by the authors and are published to stimulate discussion on a broad range of issues on which the OECD works. This working paper should not be reported as representing the official views of the OECD or of its member countries. The opinions expressed and arguments employed are those of the authors. The working paper applies the comparative forensic methodology developed by the team as part of an ERC Advanced Grant: Corporate Arbitrage and CPL Maps: Hidden Structures of Controls in the Global Economy (CORPLINK). Grant no. 69494. We would like to thank Catherine Anderson, Dough Porter, Rebecca Engebretsen, Michael Watts, Phil Culbert, Olena Isaeva, for their expert insight into the complex world of commodity trading and IFFs, and for their advice and comments on earlier drafts of their publication.

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## **Abbreviations and Acronyms**

|      |   |
|------|---|
| ACTT | Anti-Corruption Task Team                               |
| AML  | Anti-money laundering                                   |
| CPL  | Corporate Patterns and Linkages                         |
| DCD  | OECD Development Co-operation Directorate               |
| EEZ  | Exclusive economic zone                                 |
| EU   | European Union  |
| FATF | Financial Action Task Force                             |
| FIU  | Financial Intelligence Unit                             |
| FOM  | Fixed operating margin                                  |
| GDP  | Gross Domestic Product                                  |
| GUO  | Global Ultimate Owner                                   |
| HDI  | Human Development Index                                 |
| HLP  | High Level Panel on Illicit Financial Flows from Africa |
| IET  | Independent Energy Traders                              |
| IFFs | Illicit financial flows                                 |
| JVs  | Joint Ventures  |
| IUU  | Illegal, unreported and unregulated                     |
| MTO  | Money transfer operator                                 |
| NGO  | Non-governmental organisation                           |
| NOC  | National Oil Company                                    |

## Executive Summary

The ‘corporation’ (or ‘company’ in English jurisprudence or ‘société’ in French law) is a *legal* person that owns assets and partakes in contracts in markets. The ‘multinational corporation,’ otherwise known as ‘transnational corporation’ or the ‘multinational enterprise’ (MNE) is a group, an organization engaged in coordinating business activities by a variety of other entities, usually corporations. The MNE is *not* a legal person, and hence it does not own things or partake in contracts.

Towards the end of the 20<sup>th</sup> century, the typical MNE, including the majority of the important global players in the energy trading sector, has evolved into highly complex, multi-subsidiary, multi-jurisdictional organization, often spanning hundreds, if not thousands, of independent corporate entities, linked together by a complex web of ownership arrangements.

Managers control the corporation on behalf of the firm. Despite common assumptions of this hierarchical relationship, they are not, in fact, the agents of shareholders but officers of the corporation. Considering that managers are officers of the corporations and not the agents of shareholders, throughout recent history of the rise of MNEs, suppliers of finance to the corporation had to make sure that managers do not steal the capital they supply, do not waste it on bad projects and more broadly, get managers to return some of the profits to them. Gradually, countries began to introduce rules, laws and regulations that were aimed to safeguard the rights of investors in these entities. A complex and sophisticated system of corporate governance, including reporting of financial activities by the group as a whole and by each of the corporate entity under its control has emerged as ways by which suppliers of finance to corporations assure themselves of getting a return on their investment.

Over the course of the 20<sup>th</sup> century, accountability devices were increasingly extended and used by other societal stakeholders to ensure that corporate entities comply with laws of taxation, IFF and AML regulations, and any other rules deemed important. Consequently, the corporate structure itself and its governance is now one of the most salient elements in the range of accountability mechanisms that safeguard a wide range of stakeholders’ interests, including those of the suppliers of capital and regulators.

Suppliers of capital, however, do not necessarily have the same interest as other societal stakeholders, including the regulators. Consequently, societal stakeholders could now use the system of monitoring and accounting, which originally aimed to safeguard investors’ interests. A new balance had evolved, whereby management could, and was often incentivised, to assemble corporate groups in ways that may limit the ability of societal stakeholders to audit the group’s financial activities. By itself, opacity in corporate accounts or corporate organisation may not produce IFFs; but it can facilitate illicit financial dealings.

Work Stream Two (WS2) of the ACTT was tasked with investigating:

- the nature of the inner structure of a corporate network;
- geographical and topographical location of corporate entities;
- and the organisation of equity ownership of a select number of energy trading groups.

The purpose of the analysis is to help identify potential weaknesses in the system of governance of reporting of financial activities within the group, or towards societal stakeholders.

Opacity in the system of governance, internal reporting and in the degree and quality of information available to external stakeholders, may reflect either organisational weakness of the group, or an intention on the part of management to create a shield against external monitoring and scrutiny of its activities. In that case, opacity is intentional and purposive. One or a combination of four goals may drive purposive opacity:

1. *Taxation*. Whether or not the group employs legitimate (or not) tax mitigation strategies, considering the heavy reputation risks associated with tax mitigation strategies, many groups structure their corporate organisation and financial activities so that tax mitigation schemes are not readily detected (Auerbach et al., 2017; Desai and Dharmapala, 2018; Giovannini, 1990).
2. *Autonomy vis-à-vis suppliers of finance*. Managers structure the firm's corporate holdings and financial transactions in a way that achieves a degree of autonomy from scrutiny by suppliers of finance (Aguilera and Crespi-Cladera, 2016; Bendell, 2016; La Porta et al., 2000; Shleifer and Vishny, 1997).
3. *Commercial and strategic operations*. Corporate opacity is created in order to limit the ability of competitors to learn about the group's strategic and tactical (Chambers, 2006; Holland, 2005). Privacy, however, is often confused for secrecy. Secrecy is often used as a legal shield to cover up illegal actions by businesses.
4. *Illicit finance*. Opacity is created to allow management discretionary use of funds generated by the group, either for international remuneration prizes or external payments to this party, not recorded in the group accounts (Mishra, 2005).

Opacity can be driven, in other words, by a desire for privacy or secrecy. It is not always easy to distinguish between the two, but it is generally accepted that secrecy can be used as a legal shield to cover up illegal actions by businesses. Points no. 1 and no. 4 in particular would raise IFF risks.

WS2 developed a benchmarking exercise aimed to establish where the energy trading sector is located on the opacity spectrum and inquired more specifically, whether the outcome – considering the diversity of the sector - is intentional or not.

## Key Findings

The commodity trading sector as a whole is a highly opaque compared to other areas of the economy. Opacity is generated through diverse means. The ‘energy trader’ as such is a highly differentiated category. Within the framework of this project, we differentiate between traders as an independent business units (henceforward, ‘independents’), such as Glencore, Trafigura and the like, and trading units that exist as cogs in a larger corporate undertaking, or ‘integrated’ energy companies such as BP, Royal Dutch Shell and the like.

Our findings centre around FIVE core issues.

1. The group of ‘independent’ energy trading companies (‘the Independents’) are heavy users of offshore financial centres (OFCs) for their holding companies, regional holdings and special purpose vehicles (SPVs). As part of our benchmarking exercise, we have analysed the equity structure of the top 100 global industrial firms in the world in revenues in 2018. Our analysis reveals that the average proportion of group subsidiaries owned via OFC-based intermediated holding company among the top 100 was 18%. The figure rises to 29.6% for the large integrated firms in our sample, and rises again dramatically to 96.7% for the independent trading company sector. In contrast, the National Oil Companies (NOCs) appear to be relatively ‘moderate’ users of OFC jurisdictions.

The use of OFC registered subsidiaries by the corporate sector remains highly controversial. Disproportionate deployment of corporate entities registered in such jurisdictions would contribute to greater degree of opacity in the accounts of the group as a whole. Intensive use of such jurisdictions, particularly by the independent sector, combined with the complexity of corporate holdings through OFC jurisdictions, therefore, weakens the system of governance as described above.

2. An issue of concern shared by both the integrated and independent companies in this sector is a tendency towards centralising and pooling value among diverging entities within the group. Wholly owned energy trading subsidiaries embedded inside a large corporate group appear to operate as both highly centralized energy trading ‘hubs’, and also as centralized hubs for a broad range of intra-group treasury management roles. Pooling of origination activities takes place in a relatively few legal entities within the group and combining trading specific functions with other internal corporate financing and treasury functions appears to be the norm.

3. The accounts of the regulated trading legal persons embedded in the corporate ecology both within independent and integrated companies, exhibit a common pattern of a fixed operating margin (FOM) cost structure, whereby regardless of income volatility, roughly all of the income into the company exits the company as an operating cost in a relatively fixed, highly correlated manner. This implies that the traders’ accounts are ‘managed’ by the group.

4. The National Oil Companies (NOCs) appear to be comparatively simple organisations, often consisting of a small number of legal persons. A great concern, however, is that data availability for this segment is extremely poor. Some of the NOCs do not publish consolidated accounts. As a result, national stakeholders have very limited ability to make sure that managers do not steal capital and do not invest it in bad projects. Lacking strong internal accountability, we believe that NOCs would have a limited ability to raise capital directly from the international

markets and have to rely instead, as WP3 describes, on the independent or integrated energy trader for loans, raising IFF risks as described in WS3 report.

5. In our mapping, we have identified a class of dormant corporate entities. A dormant entity is a proxy for companies where you only see the balance sheet, but not the corresponding income statement. Dormant companies hold funds or cash but have no operational functions. They are subject to limited auditing. We have identified at least one case in which a dormant company may potentially be used as a ‘slash fund’ and hence appears to be highly risky.



## Conclusions and Recommendations

- 1) Energy trading is high-volume, ultra-low-margins, low-tax sector that capitalises on the known techniques of opacity in corporate organisation to ensure that values and risks are manoeuvred within the group beyond public reporting requirements and hence, beyond possibility for public scrutiny.
- 2) We could not determine whether intensive deployment of OFC-based subsidiaries by the independent energy trading firms in our sample is driven primarily by privacy or secrecy concerns. We recommend that the ACTT engage in discussions with these firms in a second phase of the project in light of our findings, in order to learn why this sector behaves so differently when compared with the top-100 industrial firms.
- 3) Hubs entities that act as FOMs also raise concerns. The prevalence of ‘managed’ accounts impairs the ability of internal auditors and even more so, of the regulators, to monitor group’s financial activities. Case no. 3 of WS3 provides a vivid example of possible issues with FOMs. Case 3 appeared to have been overlooked by internal auditors and was discovered and reported only when a different bank acquired a player in the deal. There are no easy solutions to auditing concerns raised by the phenomenon of the FOMs. It may be that additional or more robust auditing requirements would be beneficial for all involved.
- 4) Those NOCs that lack strong internal accountability naturally raise concern. Furthermore, we believe that NOCs do not benefit from the situation either. Unless they are able to establish a robust and transparent system of government, they would have a limited ability to raise capital directly from the international markets and would have to rely instead, (or their governments have to rely), as WP3 describes, on the independent or integrated energy trader for loans, raising IFF risks as described in WS3 report. We recommend the ACTT to establish a dialogue with those NOCs with the view of improving their systems of governance.
- 5) WS2 can only alert at this point of possible misuses of dormant companies by energy trading groups. A number of cases were found to exhibit unusual activity in the past five years. It was not possible, however, to either verify the reasons for those unusual activities or their purposes, or indeed, to benchmark the behaviour of trading companies against use of dormant companies in other sectors.

- 6) Phase 1 raises a number of important issues for further research; those are outlined in the end of this report.

## Motivation and Scope

Using the Orbis database, the CORPLINK project has developed a set of powerful analytical methods that help analyse the organisation of the modern firm. Our techniques allow us to track corporate patterns, and analyze potential weaknesses in the system of governance that may affect that ability of stakeholders to monitor.

WS2 has profiled the energy-trading sector, focusing on the integrated oil companies, as well as independent oil companies; national oil companies (NOCs) and smaller organisations, in order to establish broad patterns of corporate organisation and identify financial signatures where possible. The aim of this Work Stream (WS2) was four-fold:

- 1) To map the complex corporate ecology (comprised of assemblages of companies, or corporate units, through which managers operate across multiple jurisdictions, mainly by deploying various legal and accounting instruments and practices;
- (2) To interpret, as far as possible, the functions and purposes that these instruments and techniques serve, in order to:
- (3) Interpret how different elements of this ecology produce (or may be benchmarked) to, known IFF vulnerabilities, and to:
- (4) Indicate whether further work is needed, both to better understand the global political economy of corporate arbitrage, and to flesh out and triage the intended, inadvertent and perverse impacts of potential remedial actions.

Scope. With these aims, WS2 has profiled a list of target firms operating in the energy-trading sector, including six independent firms such as Transfigura and Glencore, 9 integrated energy firms such as BP or Total, 6 National Oil Companies such as the Nigerian National Petroleum Corporation and Group Sonangol (Angola) and two midsize players, Sahara and OandO. Following data collection and analysis of a set group of energy traders, (see Table 1) the results were shared and where possible, confirmed through inside expert knowledge gathered by Work Stream 3.

## Conceptual Framework

One important institutional innovation stands out in the historical rise of capitalism and market economy: the invention of an economic association. By the late 19<sup>th</sup> century it would be defined in the laws of many countries as an *artificial legal person* (Sobel, 1993; Williston, 1888). These legal persons would themselves be subject to a number of important historical innovations, including the introduction of a limited liability company and the joint stock company.

When corporations began to internationalize in the late 19<sup>th</sup> century, they had to adapt in order to cope with diverse laws of host countries, including accounting standards, taxation, limited liability, labour laws, case laws, etc. Corporate law was in infancy in many jurisdictions. Often the new multinational enterprise (MNE) would chart an entity in a foreign country run by local agents. Over time, a system of foreign branches evolved. Those foreign branches were controlled directly by the parent, but generally speaking, were protected by little more than a set of customary laws that did not offer a great degree of protection (Bondzi-Simpson, 1990).

In 1899, the situation changed dramatically, following an amendment to the laws of incorporation introduced by the ‘mother of trusts’, the state of New Jersey. It would soon be emulated elsewhere in the US and beyond (Arsht, 1976; Cheffins, 2015; Manesh, 2011). For the first time ever, the New Jersey amendment allowed corporations *to own stocks in other corporations* (Grandy, 1989; Yablon, 2006). The effect of the change was controversial. On the one hand, the new rule pre-facilitated an enormous concentration of capital, particularly in the US. On the other, many MNEs soon began to replace their foreign branches with a system of local subsidiaries owned and controlled by the parent. The rationale for the selection of such organizational structure was the minimization of potential liability of the parent company for the operations and potential claims against its operating subsidiaries (Blumberg, 1993).

The parent-subsidiary model also had other advantages. As separate legal persons, subsidiaries were able to, for instance, raise funds in local capital markets, selling shares or issuing stock options. Crucially, as separate legal persons, they could shield (up to a point) the parent company from liabilities and disputes. The parent-subsidiary model of corporate organization had become the standard organizational structure since the early 20<sup>th</sup> century and is the model adopted by large energy trading firms as well.

It is at this point in the historical evolution of modern international business, the term ‘multinational corporation’ - a concept that was introduced many years later and for different reasons - would become a misnomer. The laws in most countries treat each corporate subsidiary in isolation, as an independent legal person (this is known as entity law, for discussion see Adriano, 2015; Blumberg, 1993; Lambooy et al., 2013; Robé, 2011). Strictly, a corporation, which is registered as a legal entity located in one jurisdiction, cannot be ‘multinational.’ In Hadari’s words: ‘the typical MNE is a cluster of separate legal entities in several jurisdictions, which exist only if the laws of each jurisdiction recognize them as legal entities. The MNE is a business and economic creature, and the usage of that term is presently found only in those fields’ (Hadari, 1973, 754). Hadari suggests that the term ‘multinational corporation’ should be reserved for the corporation that controls the multinational cluster, typically a holding company (Hadari, 1973, 753).

In WS2 we adopt Jean-Philippe Robé's proposal and differentiate between the concept of *the firm* and that of the *corporation* (Robé, 2011, 2016). The firm is the overall economic unit, a going concern, and can consist of a multitude of separate legal entities, or corporations. It employs laws pertaining to the creation of agency relationships, organized contracts and private property in order to construct a 'going concern' (Matheson, 2008; Orts, 2013; Robé, 2011).

Other organizational innovations followed during the second half of the 20<sup>th</sup> century. The first had to do with the introduction of 'bankruptcy remote' special purpose vehicles (SPVs) or entities (SPEs) (Demere et al., 2018; Hartgraves and Benston, 2002, 2002). Banks, for instance, developed techniques of bundling mortgages together as one product - mortgage backed securities (MBS) - transferring those rights to an SPV, which as a separate legal person often registered in OFCs (for a number of reasons) were considered bankruptcy remote from the parent. In the corporate world, such SPVs served a variety of functions. Firms would set up SPVs, for instance, to encourage joint ventures with local capital. Firms may also opt to grow through mergers and acquisitions but maintain each newly assembled firm as effectively a separate organizational structure with its own corporate organization and legal architecture.

The upshot of all these trends can be summarised in five main developments.

1. By the late 20<sup>th</sup> century, many MNEs developed highly complex, multi-subsidary, multi-jurisdictional organizational architecture, often spanning hundreds, if not thousands, of independent corporate entities linked together by a complex web of ownership arrangements (Avraham et al., 2012; Birkinshaw and Morrison, 1995; Desai, 2009; Forte, 2016; Powell and Rhee, 2016 Bethel and Liebeskind 1994; Zey 1989; 1993; 1995; 1996; 1998; Zey and Camp 1996.) Many modern MNEs would thus become complex assemblages of corporate units, or veritable ecologies of corporations and affiliates. These ecologies would typically consist of layers upon layers of intermediating corporate entities serving various functions along chains that ultimately lead to the parent (potentially via several, convoluted, meandering routes). A 2012 study commissioned by the New York Fed reveals that the number of subsidiaries and affiliates owned by some of the largest US bank holding companies rose to an average of 3,400 in 2012, up from about 1,000 in 1990 (Avraham, Selvaggi, & Vickery, 2012).

2. The "corporation" (or company in English law or "société" in French law) was and remains a *legal* person. Corporations own assets and shareholders will own shares issued by the corporation in order to raise funds (Robé 2019). Crucially, what is often described in the literature as the 'multinational corporation' or 'transnational corporation' or the 'multinational enterprise' is not a legal person, and hence it does not own things or partake in contracts (Blumberg, 1993; Hadari, 1973; Orts, 2013; Robé, 2011). The "firm" (enterprise) is a name, a group, an organization engaged in coordinating business activities by a variety of other entities, usually corporations.

Managers control the corporation on behalf of the firm, despite common assumptions of this hierarchical link they are not, in fact, the agents of shareholders but officers of the corporation (Robé 2011: 3). Shareholders own shares issued by *corporations*, *not firms* (typically shares issued by a parent company or a parent holding company). Shareholders do not own the firm or the corporation, which is legally structured to be owned by no person. Many countries have a concept of a limited liability company. In reality, the company (or corporation) has full liability and if becomes insolvent may eventually cease to exist. The legal personality of the

corporation helps create and maintain walls between asset control, dividends, and liabilities (Robé 2019).

3. Considering that managers are officers of the corporations and *not* the agents of shareholders, throughout history, suppliers of finance to the corporation had to make sure that managers do not steal the capital they supply, invest it in bad projects and more broadly, get managers to return some of the profits to them. In parallel to the innovation of the corporate legal entity, Limited Liability Company and joint stock company, countries began to introduce rules, laws and regulations that were aimed to safeguard the rights of investors in these entities. These rights would typically include standardised accounting practices, insurance and risk management arrangements, compliance procedures, as well as mechanisms for accounting for managerial decisions. There were also secondary provisions in law concerning responsibilities of directors and the like. A complex and sophisticated system of corporate governance, including reporting of financial activities by the group as a whole and by each of the corporate entity under its control has emerged as ways by which suppliers of finance to corporations assure themselves of getting a return on their investment (Shleifer and Vishny, 1997).

4. Throughout the 20<sup>th</sup> century, a system of reporting that supports the established standard of corporate governance and is used for auditing purposes had been increasingly used by other stakeholders. These included inland revenues and other regulatory authorities, to assure themselves that corporations abide by financial rules and regulations, including taxation, and proper financial conduct. Over the course of the 20<sup>th</sup> century, societal stakeholders to ensure that corporate entities comply with the laws, including taxation, IFF and AML regulations, pollution standards, etc, were increasingly using these accountability devices.

Suppliers of capital, however, do not necessarily have the same interest as governments, inland revenues and other regulators. Contrary to societal stakeholders, investors may benefit from sophisticated tax mitigation schemes, some of which may be seen by societal stakeholders as aggressive tax avoidance (ATP) techniques orchestrated by management. They may well accept that under certain circumstances, or in some sectors or countries, the group may perform better and may provide better returns to the supplier of capital, if it engages in activities that may be defined by societal stakeholders as illicit finance (such as illicit payments to local officials or other third party). Suppliers of capital may also accept that excessive transparency of publicly available information may impair the group's ability to compete effectively with other groups, and thus maximise return on investment.

5. Consequently, the system of monitoring and accounting, which originally aimed to safeguard investors' interests, could now be used by societal stakeholders in ways that may conflict with investors' interests. A new balance had evolved, whereby management could, and was often incentivised, to assemble corporate groups in ways that may limit the ability of societal stakeholders to audit the group's financial activities.

The link between complex and opaque corporate structure and IFF had been suspected for a while. IFFs must be secretive and non-transparent by definition in order to take place, the opportunity for illicit action increases with the presence and the degree of opacity in a given set-up or transaction (Mbeki 2016, Abugre et al. 2019). UNCTAD World Investment report notes:

‘Complex corporate structures have become increasingly notorious in recent years. They feature prominently in the debate on tax avoidance by MNEs, because investment schemes involving offshore financial centres, special purpose entities and transit FDI have proved to be an important tool in MNE tax minimization efforts (WIR15). They are also central to the discussion on illicit financial flows because they enable, channel or launder the proceeds of tax evasion, corruption or criminal activities. As a result, *complex ownership structures are at times portrayed as suspect and contrary to good corporate governance practices*’(UNCTAD, 2016, 129, emphasis ours).<sup>1</sup>

The OECD’s own Directorate for Public Governance published a report on “Policy Coherence in Combating Illicit Financial Flows” identifying opacity or a lack of transparency as conducive to IFFs. The report argues that ‘Secrecy facilitates crime, corruption [...] while transparency in an essential tool in fighting them’ (Dohlmann & Neylan 2015, 17). Key areas of concern listed in the report are bank secrecy, secrecy jurisdictions, transparency regarding contracts and payments, but also “beneficial ownership of legal persons and arrangements.” The report points out specifically to the “use of complex ownership structures of opaque legal persons or arrangements is now the most commonly used means of hiding ownership and control of assets” (Dohlmann & Neylan 2015, 18).

Similarly, the 2012 FATF recommendations include the requirement of disclosure of both control and beneficial ownership of all legal persons and legal arrangements and the possibility of ceasing to do business with legal persons registered in secrecy jurisdictions if they cannot apply adequate transparency checks (de Koker, 2013). We conclude that while opacity in corporate accounts or corporate organisation may by itself not produce IFFs, it can facilitate illicit financial dealings.

The five points pertaining to the historical evolution of the corporation, combined with concern expressed by leading regulatory bodies with the phenomena of complex corporate structures, inform our conceptual approach that, in turn, is based on the a three-fold assumption.

First, the advent of complex multi-subsidary controlling a multitude of legal persons across diverse jurisdictions has endowed the corporation with a wide arsenal of legal tools, accounting mechanisms and financial techniques. These instruments, in turn, continually evolve, often reactively with respect to new regulations, making governance and accountability more difficult. Logic tells us that all else being equal, the ease with which an illicit act can be committed will have an impact on whether or not it is committed.

Second, if secrecy makes an illicit financial flow comparatively easy to hide, then dealing with a distant subsidiary registered in a secretive location allows for more opportunity space for IFFs than dealing with a corporation whose ownership and control are known. Of course, this does not imply that trading with a distant and non-transparent entity is always illicit or must necessarily involve illicit finance. It simply means that the less opacity there is in a transaction,

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<sup>1</sup> The report continues: at the same time, with the increasing integration of the world economy and the growth of global value chains (GVCs, see WIR13) the international production networks of MNEs have become more and more complex. This growing complexity is inevitably reflected in corporate structures’ (UNCTAD, 2016, 129).

then, all else being equal, the lower the risk of something hidden (potentially illicit) taking place. Put simply, “[t]he greater the degree of opacity...the higher the risk of illicit financial flows” (Abugre et al. 2019: 13). ]

Third, it is the corporate structure itself and its governance that is the most important element in the range of accountability mechanisms that define the degree and type of opacity in corporate arbitrage. In other words, complexity in corporate structure is not the problem, opacity is. Opacity in the corporate organisation does raise risks of illicit financial activities.

There is, however, various degrees, or a spectrum, of opacity in the global corporate ecology. At one end of the spectrum, there are fully transparent entities, where every single penny is accounted for and it is reflected in companies and reported documentation freely and openly available. At the other end of the spectrum, there are fully non-transparent companies: they have no consolidated accounts, no record of paperwork or compliance documentation, no record of managerial decisions that were taken and implemented.

Using the Orbis database, the CORPLINK project has developed an algorithm which, while not over-simplifying, maps group corporate structures and allows complex data to be shown in a way that is easy to navigate in order to examine the corporate structure. We map ownership links between all of the known entities belonging to a firm and supplement this equity data with shareholder and accounting data. Our visualisation makes it possible to codify research constructs, identify subsets, and compare against cases to derive underlying similarities and differences. Importantly, visualisation allows consultation with expert groups about configurational choices that are otherwise hard to explain purely through written language, etc.

WS2 of the ACTT was tasked with investigating the nature of the corporate structure of a corporate network, geographical and topographical location of corporate entities and the organisation of equity ownership of the following groups (see table 1). The purpose of the analysis is to generate a group profile of the scope and intensity in the use of complex ownership structures of opaque legal persons in the sector, and otherwise identify potential weaknesses in the system of governance of reporting of financial activities within the group, or towards societal stakeholders.



**Table 1****List of Companies Mapped by Work Stream 2**

| Segment Classification | Requested Target   |
|------------------------|--|
| INDEPENDENTS           | Macquarie Bank   |
| INDEPENDENTS           | Trafigura Group  |
| INDEPENDENTS           | Glencore   |
| INDEPENDENTS           | Vitol  |
| INDEPENDENTS           | Mercuria   |
| INDEPENDENTS           | Gunvor   |
| LARGE INTEGRATED       | ENI  |
| LARGE INTEGRATED       | Exon   |
| LARGE INTEGRATED       | Sinopec (trading arm UNIPEC)   |
| LARGE INTEGRATED       | CNPC/Petrochina  |
| LARGE INTEGRATED       | CNPC/Petrochina  |
| LARGE INTEGRATED       | Shell  |
| LARGE INTEGRATED       | BP   |
| LARGE INTEGRATED       | Litasco  |
| LARGE INTEGRATED       | Total  |
| NOC                    | Mozambique NOC : Empresa Nacional de Hidrocarbonetos de Moçambique (ENH) |
| NOC                    | Société nationale des pétroles du Congo (SNPC)                           |
| NOC                    | Nigerian National Petroleum Corporation                                  |
| NOC                    | Group Sonangol (Angola)  |
| NOC                    | GEPetrol of Equatorial Guinea  |
| NOC                    | Iraq National Oil Company (INOC)   |

|                           |        |
|---------------------------|--------|
| SMALL TO MIDSIZED PLAYERS | Sahara |
| SMALL TO MIDSIZED PLAYERS | OandO  |

## The CORPLINK Method: Comparative Forensic Analysis and Equity Mapping Research

While it is common knowledge that many modern MNEs have evolved into highly complex multi-subsidary, multi-jurisdictional organisations, the precise organisation structure of these firms remains unknown. The number of entities affiliated with a group of large publicly traded firms tends to be known, the figure are made available either by the firms themselves or by a number of commercial data providers such as the Orbis database. Armed with various lists of ‘tax havens’ or ‘offshore financial centres’, researcher can also deduce the number of subsidiaries of the group located in those jurisdictions (Cobham and Janský, 2019; Garcia-Bernardo et al., 2017; Haberly and Wójcik, 2015; Tørsløv et al., 2018; Zucman, 2014).

A numerical game, however, is insufficient. Research conducted by the OECD BEPS team (OECD, 2012, 2013a), the US Permanent Subcommittee of Investigation (the Levin committee) (LEVIN, 2012; Levin et al., 2013), The European Union Competition department (European Commission, 2016; Richard, 2018), the UK Treasury (HM Treasury, 2014), as well as independent researchers (Coyle, 2017; Darby and Lemaster, 2007; Palan, 2014; Philips, et al., Forthcoming) reveals that certain type of corporate patterns and linkages (or CPLs, in short) used for designated functions are embedded in the corporate ecology. These functions include tax mitigation, liability mitigation and the like.

The CORPLINK project funded by the European Research Council Advanced Grant (<https://corplink.org/>) is predicated on the assumption that a corporate equity mapping of these large firms, combined with intensive interdisciplinary collaborative work with corporate and tax lawyers, accountants and financiers, is a useful starting point that will help researchers to disaggregate complexity, and begin to unravel the types and function of CPLs that are embedded in these corporate ecologies. There are, however, tremendous technical difficulties in reaching a true image of the corporate assembly which the project had to overcome.

Traditionally, academic research of corporate governance has been concerned with the relationship between management, shareholders, and more broadly, suppliers of capital (Aguilera and Crespi-Cladera, 2016; Blumberg, 1993; La Porta et al., 2000; Matheson, 2008; Shleifer and Vishny, 1997). As a result, there is a good technical literature on shareholder control and its impact on performance and efficiency (Aguilera and Crespi-Cladera, 2016; Chen et al., 2014; Daily and Dollinger, 1992; Powell and Rhee, 2016; Titman, 2017). In contrast, research on the internal corporate architecture of MNEs is in its infancy (Kalemli-Ozcan et al., 2015; UNCTAD, 2015).

Until fairly recently, this type of research had been the preserve of forensic accountants and specialist due diligence firms. These firms develop techniques for mapping firm equity architecture using a variety of sources, including, where available, access to the firms’ step books, and manually cross-check information (Peppitt, 2008). Step book is a technical term used by accountants and corporate lawyers. It refers to internal memos or reports provided by accountants or legal teams establishing the rationale for the organisation of a set of new corporate entities in a chain. Partial step books became available, for instance, due to a leak

from the Luxembourg office of the accounting firm PWC (the so-called, Luxleaks).<sup>2</sup> Forensic accountants and due diligence firms are driven, however, by the challenges and expense of accessing data. As a result, there has not been a substantial theoretical or methodological discussion of the challenges presented by corporate equity mapping research (Broe, 2008; Mintz, 2004).

More recently, new techniques of equity mapping are developing. A key initiator of such equity mapping is the Berlin-based company OpenOil, connected with the open data provider of corporate affiliates, OpenCorporate.com. Based on an enormous amount of impressive work scraping and compiling data from open sources, OpenOil created a stunning map detailing BPs equity ownership chains across the globe, highlighting multi-jurisdictionally and complexity of their network twelve layers deep. One of the core findings of OpenOil was the stark discrepancy between companies within the group, with a few key actors having a regular activity of millions or billions of turnover while others appeared not to be doing much or anything at all (Rosenbloom, 2002). EU researchers have attempted to develop another, if less ambitious, version of equity mapping (TAXUD, 2018).

Our approach relies on different source of data. Most countries treat each corporate subsidiary in isolation, as an independent legal person (a principle that is known as entity law). Commensurably, most countries require corporate legal persons to file annual financial reports (Cobham and Janský, 2019; Kalemli-Ozcan et al., 2015; Ribeiro, et al., 2010). A number of data providers collate information from annual registries worldwide, of which one of the best known is the Orbis database provided by Bureau Van Dijk. Bureau Van Dijk collates and analyses information from public registries and provides data on the ownership relationship between subsidiaries in a group in two distinct set of reporting categories: direct ownership levels, and total ownership levels. The Orbis database provides data on ownership reporting by entities which Bureau van Dijk has calculated as being a subsidiary owned by parent entity in the group, ending with the global ultimate owner (GUO).

The Orbis database is far from being perfect. The OECD's statistical department produced early on an excellent analysis of the pro and cons of the Orbis database comparing to others, such as Amadeus, Bankscope and the like (Ribeiro, et al., 2010). Although some of the issue raised have been dealt with since that time. There are also issues, in particular, of coverage, access to national record-keeping archives, and the quality of financial data. There is practically no financial data, for instance, on U.S. based subsidiaries (Cobham and Loretz, 2014; Kalemli-Ozcan et al., 2015; Ribeiro, et al., 2010).

At the same time, some of the supposed limitations with Orbis data are not limitations at all. The Orbis data is qualitatively different from the consolidated data provided by PICs which is the one traditionally used by in academic research. There are a number of issues, for instance, in using accounting variables in economic analysis, not least because the three disciplines of accounting, economics and law, often use similar concepts, such as income, profits and like. But the meaning of these concepts varies from one discipline to another. Moreover, the meaning of these concepts can vary from one jurisdiction to another. Conceptual dissonance

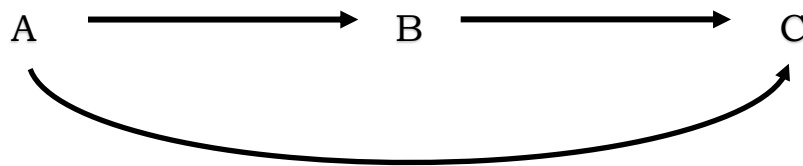
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<sup>2</sup> See: [https://www.icij.org/investigations/luxembourg-leaks/explore-documents-luxembourg-leaks-database/?icij\\_navigate=luxleaks&icij\\_navigate\\_luxleaks=/apps/2014/12/luxleaks/companies/the-walt-disney-company.html](https://www.icij.org/investigations/luxembourg-leaks/explore-documents-luxembourg-leaks-database/?icij_navigate=luxleaks&icij_navigate_luxleaks=/apps/2014/12/luxleaks/companies/the-walt-disney-company.html)

may lead to apparent comparisons of similar categories, or seemingly weaknesses in the data, that may appear then incomplete for statistical analytical purposes. For all those reasons, the Orbis database is less reliable for macro-economic statistical analysis--which we do not attempt in this project. The Orbis database provides, nonetheless, the best available information on group equity ownership. Cases of known poor coverage, such as Africa, which may affect our analysis of National Oil Companies (NOCs), are acknowledged.

There are certain limitations to the Orbis data on equity relationship, however, that require additional cleaning. The Orbis database provides ownership relationship data between subsidiaries in a group in two distinct sets of reporting categories: direct ownership levels, and total ownership levels. The data may describe a reporting relationship where corporate entity 'A' owns corporate 'B' directly, and corporate 'B' owns corporate 'C' directly. However, it may also contain information about corporate 'A' as owning corporate 'C' indirectly, therefore misrepresenting the reported total level of ownership (seen below in Figure 1).

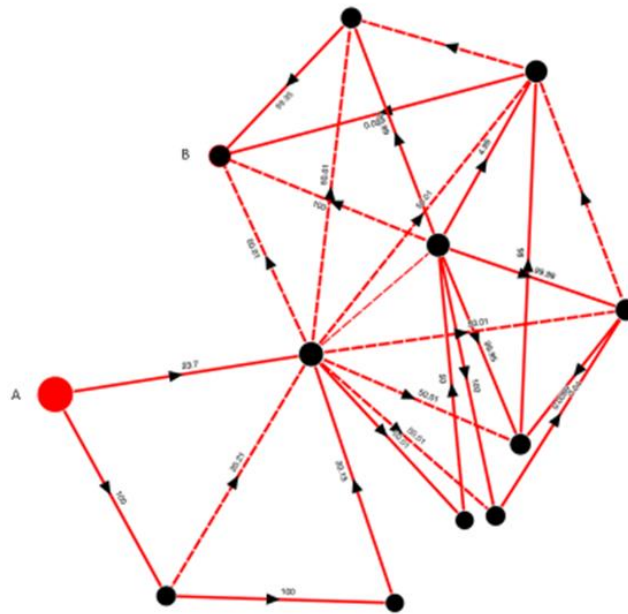
Figure 1  
Direct and Indirect Ownership Patterns



Over thousands of links between entities on lengthy ownership chains within a group network, such misrepresentations aggregate and can completely distort information about a corporate group. Left 'untreated', the complexities and ambiguities that are built into the Orbis database reporting could generate false interpretation of the data, leading to incorrect equity mapping. Hence we cleaned the data to minimize the level of indirect relationships to only those cases where there is no other direct information available, preserving where relevant the level of total ownership.

For all these reasons, it is important to simplify the raw information by filtering out indirect ownership reports except to the point no other direct relationships present, and taking into account what the total ownership value is, in case not all the direct equity pathways are known. We developed an algorithm for cleaning scenarios, presented schematically in Figure 2.

Figure 2: Possible permutations of ownership arrangements as registered on the Orbis database (solid lines signify direct relationships, dashed lines are reports of totals owned indirectly).



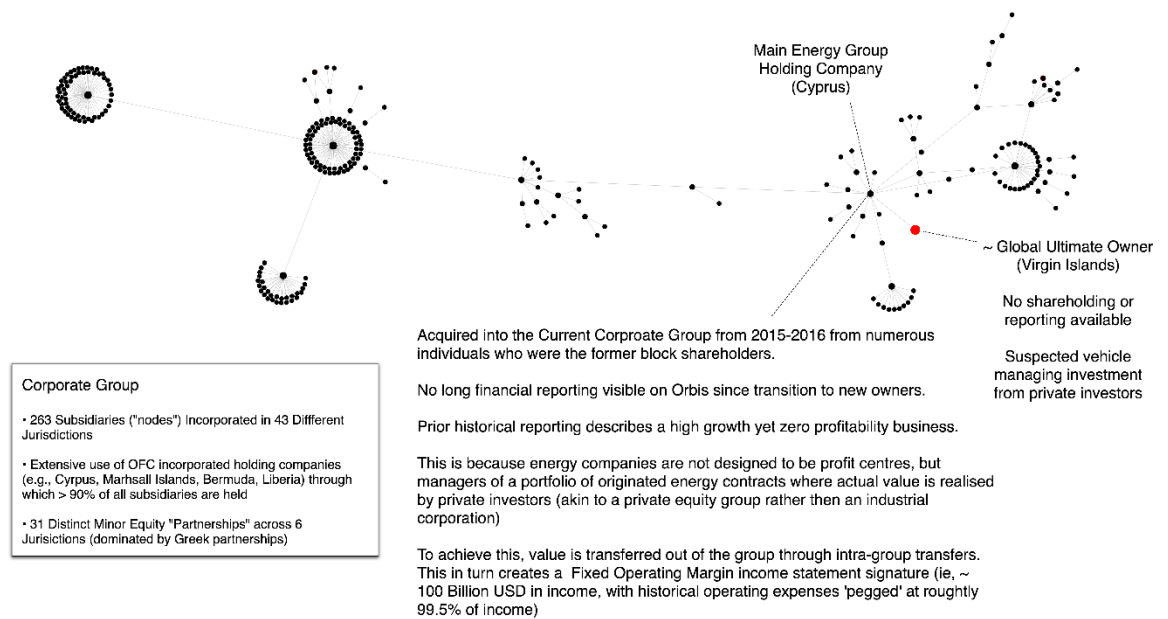
Sometimes, it is impossible for there to establish a complete direct ownership chain connecting one reporting entity to another. This can occur for instance when foreign firms listed on the US stock market via the use of American Depositary Receipts (ADRs). Here, the legal entity itself is not created in a particular state with shareholdings that connect the entity directly to a foreign owner. Rather, it is an entity created for listing purposes, such as when Toyota Motor Corp. lists on a US stock exchange. These mechanisms were created to allow foreign entities to list on the US stock market without the potential constraints that may come with US purchasers buying shares in foreign countries. The listed entity, in this case, is a distinct entity given the rules of how that particular securities market works, the ADR representing the accounting values allocated to that listed entity. This illustrates how indirect reports may not always signify the invisibility of a third-party entity in between.

We convert the ownership data provided by Orbis into an equity map of corporate groups using standard social network (SNA) approach. The structure of information that is described in social network analysis is usually constructed as an “adjacency matrix,” whereby for every node in the graph, the immediate relationships with other nodes are defined. A sequence of adjacent nodes in a graph forms a path. A sequence that never revisits an edge is called a 'trail'. In turn, a ‘walk’ is any sequence of adjacent nodes. Every path is a trail, and every trail is a walk (Borgatti et al., 2013; Kurt and Kurt, 2020). SNA uses computer algorithms to “walk” through the sequential paths in the matrix most efficiently. A “walking” algorithm is looking up the immediate connections from one node, in our case information on ownership patterns filed by each SCE and provided by Orbis, and then following the sequence of connections in subsequent nodes in a series of iterations.

To visualize such equity maps, we use a force-tree algorithm that captures an equity map whole. Force-directed layout algorithms produce graph drawings using social ‘gravity’ as an additional

force in force-directed layouts, together with a scaling technique (Perlman, 1985; Tamassia, 2013). The resulting graph looks like Figure 2.

**Figure 3: An Equity map of Mercuria, an Independent Energy Trading firm, Circa 2019**



Anatomy of an "Independent" Energy Multinational, Circa July 2019

**Explanation of Fig 3:**

Every legal person in a group is represented by a dot on Figure 3. The red dot at the is the global ultimate owner. A single entity owned by a parent will appear graphically near the parent. Many of those controlled by one legal person create an appearance of a cluster. Whereas if an entity owns another entity down the chain, the intermediate entity is ‘pulled’ away from the parent in equidistance from the one below, thus an elongated chain of ownership emerges visually in which certain structures come into view. The result is an ‘equity mapping’ and is thus about constructing as complete as possible a description of all the sequences in a corporate group.

There are several reasons why our visualization of ownership networks is uniquely helpful:

- a. They help divulge true ownership patterns and links of ownership among subsidiaries in a group.
- b. Patterns of subsidiary ownership can be correlated with:
  - i. geographical/ jurisdictional location of each corporate entity;

- ii. financial data on each entity including revenues, profits, cost and debt structures, up to over a hundred and fifty other accounting data points when provided;
- iii. shareholder data letting one guess at the history of ownership amongst other things;
- iv. information on the type of business (services, industry, marketing, etc.), and
- v. specific legal type of entity.

*Limitations:*

EMs rely on data availability from the annual filings of corporate legal persons. The data and those filings, including data availability, are subject to national rules and regulations. Publicly-traded firms are generally subject to greater degree of reporting and auditing rules, whereas private companies, partnerships of all sorts are not subject to similar types of rules (Ferran, 1999). Publicly trading companies, however, can own shares in private companies and partnerships, and by doing so, create spaces of opacity not reached directly by EM research. They may also use minority share-holding patterns, joint ventures and the like, which are also subject to fewer regulatory and reporting requirements. Inevitably, the situation is more complicated when it comes to national oil energy (NOCs) or quasi-national firms. The sovereign, which is often the largest, or single shareholder of these firms have far greater discretion regarding rules of reporting, accounting and even incorporation of these firms.

There are great areas of opacity or even what we describe as ‘black holes’, in other words, in the availability of data from the corporate filings. To use the analogy further, just like in the case of black holes, we may find echoes of the existence of data on the ‘event horizon’ of the black hole, and then try and deduce from such data what is going on beyond our event horizon. Working with specialist forensic accountants, lawyers and business experts, including OECD specialists, and combining with triangulation of known cases, we developed over time a degree of knowledge and expertise in reading those signals – which we have applied to this study as well. EM research, therefore, is not an exact science but relies to a degree on knowledge, expertise, intuition and experience. Verification of the data or deduction is nearly impossible unless there is a leak from the firm or an accounting firm, or a legal case pending coming to light. We provide indications of the degree of confidence we have in every specific set of data or findings provided in this report.

Second, even within these limits, the Orbis database does not provide full accounting information on every subsidiary in a group. This is particularly the case regarding to OFC-registered subsidiaries. In one study, we found that when data provided by each subsidiary is aggregated, then in the case of the Walmart group, with an annual turnover of \$500 billion, we can account for only 22.64% of the parent’s operating revenues and 22.98% of the parent’s net income as a percentage of the parents' consolidated accounts. The Toyota Motor Corp., with \$US240 billion in annual turnover, 76.84%, and 42.86% respectively are 'visible'. This means that the rest of the operating profits and revenues that are not accounted for on Orbis at the subsidiary level are located presumably in entities that are not filing annual accounts, or in entities where their filings are not made available publicly (Philips, et al., Forthcoming). In our studies, we refer to a ‘visibility index’. The visibility index provides quantitative measure of



the percentage of visible data per accounting category (such as operating revenues, net income and the like) compared with figures reported by the global ultimate owner (GUO) in the consolidated accounts.

Third, lacking access to contractual relationship among corporate groups or between members of the group and third party, our approach does not conclusively prove that money is channeled, for instance, offshore, or that the organization of entities takes place in a specific way in order to minimize risk and liability. Rather, it suggests that certain patterns of organisation may create governance weaknesses and limit the ability of external stakeholders to audit the groups' financial activities.

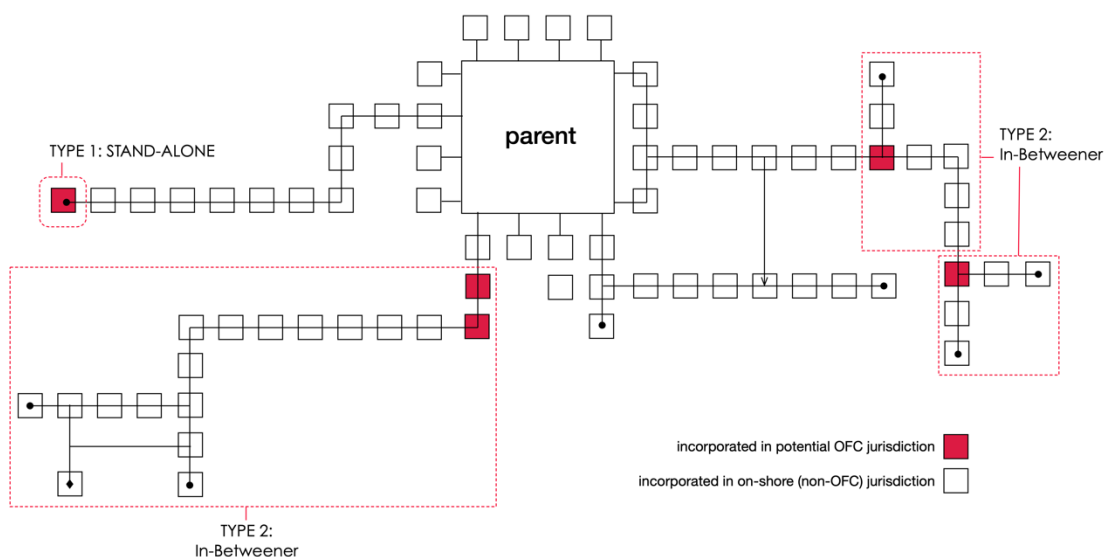
These limitations do not necessarily hamper WS2. On the contrary, it is important to bear in mind that energy-trading firms are among the most sophisticated corporate organisations that the CORPLINK project had encountered. WS2's operating assumption, therefore, is that many of the publicly traded, as well as private energy trading firms, and a good portion of the NOCs, are perfectly aware which of their entities or transaction are visible to regulators, and in what way, and which part of their corporate activities would disappear beyond the 'event horizon' of common reporting standards. They would know, in other words, if they so wish, how to create spaces for discretionary decision making, including decisions for unaccounted money transfers, for either management, or groups of individuals within the firm, that are unlikely to be detected either by auditors, let alone regulators. Reasons for doing so may be varied, and in the majority of the cases are most likely driven by commercial and strategic interests. Nonetheless, the greater the opacity is, the greater the IFF risk that can be detected by an approach such as the one developed by the CORPLINK project.

As the CORPLINK mapping tool is a relatively novel approach, there is, as of now, no theory or prior evidence of what exactly company structures should look like, let alone of what opaque or transparent companies look like. For the purpose of this project, we developed a set of proxies that help measure the degree of opacity in this sector.

## Equity Mapping as a Tool in IFF Research

Although regulators do acknowledge that complex corporate structures are IFF risks, to date equity mapping research was not used as a tool for isolating and identifying IFF risks. The CORPLINK project employed EM, for instance, to isolate certain type of aggressive tax avoidance schemes. In one instance, we sought to identify the prevalence of hybrid mismatch CPL tax structures among the 100 largest nonfinancial firms in the world in 2018. Drawing on studies conducted the OECD BEPS team as well as independent researchers (Johannesen, 2014; Marian, 2013; OECD, 2013a), we noticed that many such arrangement adopt a generic CPL we dubbed ‘in-betweeners’ (see Figure 4 below). Such structures consist of at least two corporate entities whereby at least one is located in an offshore financial centre (OFC), ‘in-between’ parent and subsidiaries down the chain, typically in an onshore jurisdiction. We were able to identify the number of such structures employed by the largest 100 industrial firms in the world in 2018, and the amount of operating revenues located under such structures. The study identifies firms that have established excess number of what can be described as ‘opportunity spaces’ for hybrid mismatch schemes in the corporate equity arrangements (Philips, et al., Forthcoming).

**Figure 4: Schematic representation of a common hybrid mismatch tax structure.**



The EM approach we developed in the CORPLINK project had to be adapted, therefore, for the purpose of this study for three reasons:

First, there is a fundamental difference between the concept of tax avoidance, including aggressive tax avoidance, and the concept of tax evasion – the latter, tax evasion, is classified as an IFF activity and is treated in most jurisdiction as a criminal offence. Tax avoidance schemes often take advantage of gaps and loopholes in the treatment of taxable events by different jurisdictions by reorganising the equity arrangement among members of the group. Tax evasion is considered a criminal offence in most jurisdictions and is unlikely to use CPLs. So far, the vast literature on tax evasion has not identified or even alluded to the existence of CPLs in such cases.

Second, lacking access to contractual relationship among corporate groups or between members of the group and third party, our approach cannot conclusively prove that money is channelled, for instance, offshore, or that the organisation of entities takes place in a specific way in order to minimize risk and liability. Rather, it suggests that certain patterns of organisation may create governance weaknesses and limit the ability of external stakeholders to audit the group's financial activities.

Third, corporate legal persons are unlikely to present explicit information in their filings on IFF-type of activities, including corporate tax evasion, bribery payments and the like in their filings. The implication of the above is that even if we had full access to filings and to the contractual relationships among members of the corporate group, the likelihood of finding evidence for IFF-type of activities is slim.

For these reasons, the focus of our profiling was aimed to identify and potential weaknesses in the system of governance of reporting of financial activities and other techniques of opacity exercised within the sector. The assumption being that high degree of organisational opacity and complexity in corporate assemblages, the greater the opportunities available to both management and/or rogue individuals or groups within the corporate group, for discretionary activities that may go undetected by auditors and regulators. Some of those discretionary activities may be classified as IFF. This research is then triangulated with the findings of WS1 and WS3, in order to provide a snapshot estimate of the industry.

Since EM research is relatively new, there is no literature describing what would account as transparent or 'normal' corporate equity structure, or abnormal and opaque corporate equity arrangements. In response, we developed for the purpose of this project a number of proxies to measure the degree of opacity and opportunity spaces for poor governance.

The primary proxy we introduce is that of an offshore subsidiary, particularly those strategically placed on chains of corporate subsidiaries between the parent and markets. The use of OFC by the corporate sector remains highly controversial.<sup>3</sup> International bodies, led by

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<sup>3</sup> Heavy reliance on OFCs may be partly explained by the withdrawal of banks from the industry after 2007-09, with the rise of the independents as part of industry's reaction to new regulation and shifts in the commodity market. Today, the independents act more like fund management companies, providing non-bank finance, which is one of the main reasons they rely on OFCs throughout their structures (see 'number of OFC subsidiaries' data in the appendix). This finding corresponds to earlier strands in the literature, which suggested that already in mid-2000s, commodity traders have been morphing into de facto shadow banks. (Macquarie is a case aside).

the OECD, have introduced important measures that have increased the transparency of corporate entities in OFC jurisdictions (OECD, 1998, 2012, 2013a, 2013b). We also acknowledge that there may be many legitimate uses for OFCs entities by the corporate sector (Helliard and Dunne, 2004; Polak et al., 2011; Tørsløv et al., 2018). Nonetheless, despite progress being made, the role of OFCs in corporate organisation is far from being settled.

Two recent comprehensive surveys produced by the Tax Justice Network, the Tax Justice Network's Financial Secrecy Index (TJN, 2018) and the Tax Justice Network's Corporate Tax Havens Index (TJN, 2019), suggest that many OFCs still facilitate opacity in corporate accounts. We create a list of OFC jurisdictions which is used then to gauge the degree of intensity of use of OFC by the energy trading sector.<sup>4</sup> Our list of OFC jurisdictions is derived from a composite of the Tax Justice Network's Financial Secrecy Index (TJN, 2018) and the Tax Justice Network's Corporate Tax Havens Index (TJN, 2019) (See Annex B for a discussion and list of OFCs used in this study). The list contains countries with a  $\geq 65$  secrecy score on the FSI 2015 index.

The full list of indicators of financial secrecy used by the FSI index are described in table 2. Among the key indicators used by the financial secrecy index are those that clearly would generate potential weaknesses in company accounts, ownership and financial activities including the records of company ownership, limited partnership transparency, and the implementation of anti-money laundering measures in the jurisdiction.

Key FSI indicators that are relevant to this investigation include: potential weaknesses in company accounts, ownership and financial activities such as recorded company ownership, limited partnership transparency, and the implementation of anti-money laundering measures in the jurisdiction. Key indicators used by the CTHI index are: transparency scores that rely on six indicators, including the degree to which a jurisdiction allows corporations to hide their financial affairs; the kind of information the corporation must file, and whether or not information is made available publicly or to foreign tax authorities.

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<sup>4</sup> We acknowledge that the concept of the offshore financial centre is highly controversial (Boise and Morriss, 2009; Buckley et al., 2015; Garcia-Bernardo et al., 2017; Palan, 2010; Palan et al., 2013; Zoromé, 2007).

**Table 2: Key Indicators of the Financial Secrecy Index**

| <b>Secrecy</b>                          | <b>Accountability</b>        | <b>Tax Administration Capacity</b> | <b>Safeguard and countermeasures</b> |
|---|------------------------------|------------------------------------|--------------------------------------|
| <b>Banking secrecy</b>                  | Public Country Ownership     | Tax Administration Capacity        | Legal Entity Identified              |
| <b>Trust and foundations register</b>   | Public Company Accounts      | Consistent Personal Income Tax     | Avoids promoting tax Evasion         |
| <b>Recorded company ownership</b>       | Country by Country reporting |                                    | Court Tax Secrecy                    |
| <b>Limited partnership Transparency</b> | Corporate tax Disclosure     |                                    | Harmful structures                   |
|   |                              |                                    | Public statistics                    |
|   |                              |                                    | Automatic Information exchanges      |
|   |                              |                                    | Anti-Money Laundering                |
|   |                              |                                    | Bilateral treaties                   |

Source: (TJN, 2018).

We note that most of the high scoring jurisdiction on the FSI secrecy score do not play a significant role in the energy trading business. Singapore, Switzerland and United Arab Emirates are the significant jurisdictions on this list.

The CTHI uses the following groups of indicators to compile its listing:

- The lowest tax rate available to multinationals in that jurisdiction.
- Loopholes and Gaps.
- Transparency. Does the jurisdiction allow corporations to hide their financial affairs there? What kind of information must they file? Is it available to foreign tax authorities? Is it made public? The “transparency” score relies on six indicators.
- Anti-avoidance. This category rests on five indicators, and looks at defensive measures that the jurisdiction puts in place to constrain tax dodging by multinational enterprises.
- Double Tax Treaty Aggressiveness. When a multinational enterprise based in one jurisdiction invests in or earns income in another jurisdiction, the question arises as to which jurisdiction gets to tax it (TJN, 2019).

Main indicators used by the CTHI index are transparency scores that rely on six measures, including the degree to which a jurisdiction allows corporations to hide their financial affairs; the kind of information the corporation must file. Whether or not information is made available publicly or to foreign tax authorities.

The top on the CTHI list are:

1. British Virgin Islands
2. Bermuda
3. Cayman Islands
4. The Netherlands
5. Switzerland
6. Luxembourg
7. Jersey
8. Singapore
9. Bahamas

*Taxation.* Many of the key OFCs chosen for the location of subsidiaries by the independent sectors either have low or no corporate taxation, or alternatively

*Decreased Compliance.* For instance, according to Singapore’s government’s own website, the vast majority of foreign-owned Singaporean entities are exempt private companies, which enjoy less flexibility in compliance and greater freedom in financial loan activities compared with other types of companies. <https://www.singaporecompanyincorporation.sg/how-to/incorporate/exempt-private-company/>

*Autonomy vis-à-vis suppliers of finance.* Managers structure the firm's corporate holdings and financial transactions in a way that achieves a degree of autonomy from scrutiny by suppliers of finance (Aguilera and Crespi-Cladera, 2016; Bendell, 2016; La Porta et al., 2000; Shleifer and Vishny, 1997).

*Commercial and strategic operations.* Corporate opacity is created in order to limit the ability of competitors to learn about the group's strategic and tactical operations (Chambers, 2006; Holland, 2005). Privacy, however, is often confused for secrecy. Secrecy is often used as a legal shield to cover up illegal actions by businesses.

It is generally the case, therefore, that corporate entities registered in such jurisdictions would contribute to greater degree of opacity in the accounts of the group as a whole. Intensive use of such jurisdictions, particularly by the independent sector, combined with the complexity of corporate holdings through OFC jurisdictions may undermine corporate accountability mechanisms and weaken the system of corporate governance as described above.

The second proxy we use is the visibility and quality of the accounts of the trading corporate person located within the group. We work on the sound principle that “[t]he greater the degree of opacity... the higher the risk of illicit financial flows” (Abugre et al. 2019: 13), the better the accounting files of these trading entities, the easier it would be for internal auditors or regulators to monitor. Conversely, poorer accounts create opportunities for transfer pricing within the group, weakening the system of internal and external auditing and generally increase the potential for discretionary financial transfers by management and/or rogue individual or groups of managers within the corporate group.

## FINDINGS

Our analysis of the target cases suggests that it is possible to identify and describe the corporate structure of most of the groups in the sample. However, results indicate potential problems when it comes to the NOCs and the smaller companies, particularly those based in jurisdictions outside of the OECD.

### *Difficulties of Isolating Energy Trading Entities in Corporate Groups*

The majority of firms in our sample consist of groups of subsidiaries often numbering in the hundreds, and in few cases, in the thousands. In each of these groups, numerous subsidiaries are either designated as ‘trading,’ or employ keywords in their company naming conventions that suggest they are involved in trading or otherwise display financial signatures of a trading entity. Typically, these subsidiaries operate in many jurisdictions. In some cases, the suffix ‘trading’ to the name of a subsidiary refers to entities that serve in ‘origination’ (see WS3 for further detail) and other support functions, concentrated in specific legal entities. In other cases, these may be legally and geographically disparate activities. The majority of these entities appear to have no publicly available statutory financial reporting. Some are even dormant entities with no income statements.

The proliferation of corporate subsidiaries with trading attached to their name render the isolation of those among them that are the actual or genuine trading entities difficult. We do not consider this a problem by itself. Indeed, we are not aware of any rules, requirements or norms in any jurisdiction for the names of corporate entities or internal classification of those entities to correspond with their true function.

### *Energy Trading and Fixed Operating Cost Entities*

The Visibility index for the sector, measured in this project in terms of the proportion of corporate subsidiaries that present financial data is fair to poor (see columns I, J and K, Annex A). The visibility index score is surprisingly the highest among the independents as a group, ranging from a 48% for Guvnor 48% to 11% for Mercuria, with Trafigura scoring 27%, Vitol 29% and Glencore 25%. Overall lower among the integrated oil companies, of which ENI scores highest with 51%, followed by Lukoil (Litasco) 42%, Shell 33%, BP 17%, Exxon 14% (typical of American companies) and CNPC, 6%. Among the NOCs in our sample, only Sonangol has any visibility a low 12%. The rest display 0% visibility in their accounts! The visibility index for the sector as a whole is poor compared with other sectors we have studied (Philips, et al., Forthcoming).

The visibility score allows us to reach certain broad conclusions about the financial behaviour of the independent and the integrated firms as a group. Although many of the groups in our sample comprise of hundreds, sometimes, thousands of subsidiaries, underlying financial



operations of the entire corporate group in our sample is performed by few, and sometimes a single entity. We designate those key legal persons as financial ‘hubs.’

Proportionally speaking, such ‘hub’ entities tend to dominate the ‘visible’ financial reporting on Orbis (see Column W on Annex A, as well as Column J per each corporate group). By ‘visible’ we mean, as discussed above, those hubs tend to be located in jurisdictions that make end of year financial reporting mandatory and publicly available. This is a point potentially of significance, to which we return below. Across the sample, the average value for operating revenues reported by the single largest ‘hub’ entity of each group averages 29.9 percent of the operating revenues declared in the global ultimate owners’ consolidated accounts. In some cases (i.e., Sinopec Sales Co Limited), the reported unconsolidated revenues nearly was double the parent company’s reported revenue (183% being the largest single case observed). This gives us some indication of the significant role played by energy trading activities in the composition of distinct business activities within the group as a whole.

This arrangement, concentration of value in hubs in the energy-trading sector is consistently reproduced over successive accounting periods, usually for the financial reporting history of the entity. If anything, the trend over time has been for increasing concentration of activities in fewer and fewer hubs.

Concentration of value in few entities is to be expected up to a point. Trading entities do not carry out tangible functions – they have no physical assets and limited operating costs (salary of the trader and rent of the office equipment) and to the extent that the trading company acquires ownership of the commodities being traded, they have high volume of turnover and correlating volume of the COS (Cost of Goods Sold) – leaving a some % of gross margin which could deliver a significant gross profit over relatively low level of operating expenses. There are also traders that may carry out more complex operations, which also require more activities and functions. E.g. Some traders may own storage facilities, such traders will own the commodity and may have it on their balance sheet for some time (including the year-end – leading to inventories on their balance sheet).

Yet, the above does not explain a second common characteristics to those hubs in the energy-trading sector: They typically display a ‘fixed operating margin’ (FOM) pattern in their income statement. In a FOM entity, a vast amounts of accounting value flows through these entities each year, in the billions if not hundreds of billions of USD for the largest energy firms. Nearly all revenues are matched by a commensurate rise or decline in expenses on a yearly basis recorded as a ‘cost of goods sold’, or ‘material costs’ in the accounting categories Orbis provides. In other words, if revenues are higher one year, then costs seems to rise proportionally as well to match to higher revenues recorded. If revenues are low the next year, then conversely, costs will decline as well to ensure the hub is either making little operating revenues or none. Typically, the lion’s share of the entire group’s income that is managed by the hub subsidiary (often > 99 percent of it) is transferred to other parties in the form of an operating expense. An energy-trading entity as described above should not have a FOM characteristics.

In our view, therefore, the concentration of value in few hubs is likely to be an accounting artefact most likely via transfers and pooling arrangement into centralised hubs of financial

activities and may not reflect the true profile of financial activities of either hubs or other subsidiaries in the group. Financial activities are concentrated, or ‘booked,’ under a common administrative function.

**Figure 5: Distribution of FOMs, Glencore**

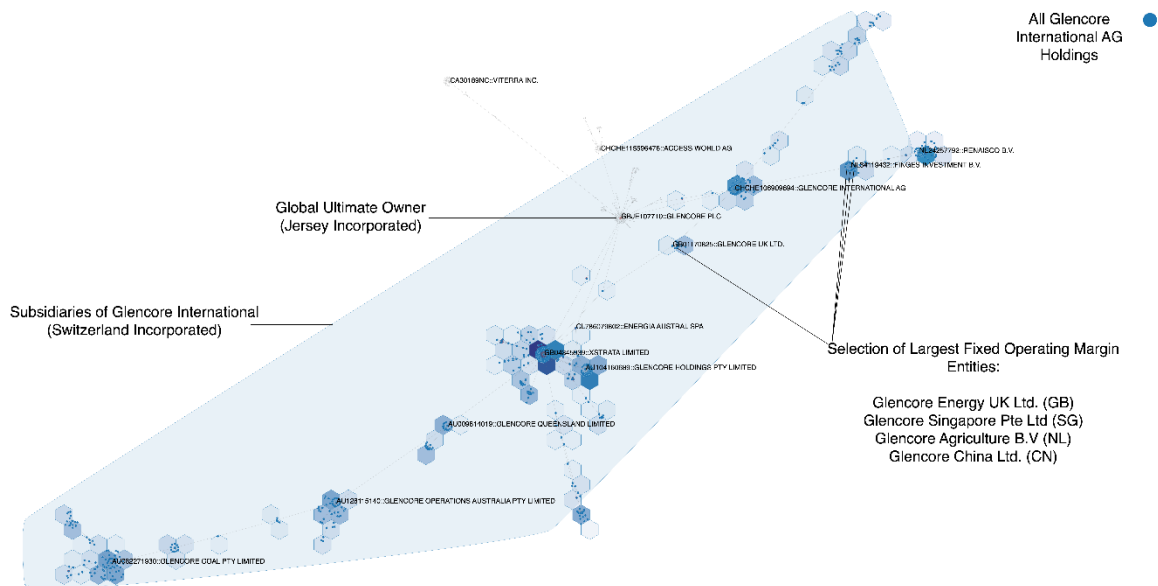


Figure 5 presents an EM of Glencore, circa late 2019. In this representation the clustering of corporate entities is indicated by colouring: the darker the colour, the greater the clustering of entities. Glencore’s global ultimate owner is a jersey incorporate subsidiary, Glencore PLC. Most of its financial activities are centred around four FOMs, located in the UK, Singapore, the Netherland and China. Glencore’s own ‘Payments to government report’ mentioned none of the FOMs or the Jersey GUO. The report mentions that

‘ It is market practice for streaming contracts (where future group production of precious metals is pre-sold to an off-taker) to be performed by a SPV incorporated in a neutral jurisdiction. Where this occurs, the Group ensures that any profit or loss arising in respect of the transaction is realised in Switzerland, where the group has its head office and major trading presence, via a total return swap contract between the SPV and Glencore International AG’ (Glencore, 2019, 5).

Glencore report makes it appear as if Switzerland is where the head office and major trading presence takes place. But analysis of data from its constituent corporate subsidiaries is telling a different story. Nonetheless, despite those anomalies, we recognise that among the group of independent energy trading companies, Glencore’s report provide the most information about the group’s activities.

There is a different literature discussing a tendency among modern MNEs towards concentration of value in one or more hubs, known as corporate treasury operations. The concept of corporate treasury refers to a wide-ranging set of activities, including administrative and financial functions, such as financial risk management, hedging, credit, cash pooling, insurance and compliance (Helliard and Dunne, 2004; Mazzi, 2013; Polak, 2010; Polak et al., 2011; Stewart, 2008). Due to increasing complexity of financial markets, complicated regulations raising compliance issues, corporate treasury operations are increasingly standardized and integrated to improve alignment and coordination with the company's core business activities. Over time, Treasury operations have assumed a far more central and strategic dimension of modern international businesses, both in terms of operational size, and regarding their significance to the overall competitiveness of the enterprise. The expansion and centralization of Treasury operations that began from around the 1980s, was also accompanied by the development of regionalization of Treasury operations (Polak and Roslan, 2009). Tax neutrality' and or, rather, tax deferral, are often cited as one of the key motivations for the location of such functions in OFCs subsidiaries (Chorafas, 1992; Dharmapala, 2019). Others cited reasons for the proliferation of corporate treasury operations in OFCs range the convenience, bespoke regulatory environment and hedge against the potential political and societal hazards (Helliard and Dunne, 2004; Polak et al., 2011).

While, the phenomenon as such is observed in other sectors via intra-group transfers and other 'pooling' arrangements in centralisation management hubs, to the best of our knowledge, the hub/FOM phenomena was not known until now. We have not come across instances either in the literature on company law and corporate finance, or in the literature on treasury operations that hints at the possibility that a corporate legal person, let alone a large corporate hub, would display consistently FOM characteristics (Dolde, 1993; Ferran, 1999; Gregg and Gallanis, 2002; Jalilvand et al., 2000). As a result, there is no literature that explains the degree of concentration in hubs and their FOM characteristics in the energy-trading business as well.

One possible explanation arose in discussion with WS3 is a theory that energy companies often act as private banks to underwrite trading deals. The traders are in an advantage of doing so because, as reported by WS3, once banks withdrew from trading (due to regulatory restrictions), a number of the independent companies emerge filling up the vacuum left by the banks by taking advantage of lower financial regulations and compliance rules afforded to the corporate sector. The hub then become, in effect, as WS3 suggests, a 'shadow bank.' According to this theory, the hub/FOM serves as a provider of funding liquidity to traders, and a potential funding pool for market risk. In this way it has some characteristics of a shadow bank. In normal banks such functions are performed due to regulatory regimes – banks are required to set aside a fixed amount of capital to cover for potential risk. But as a shadow bank operated by an energy trading firm, the hub/FOM entity is unregulated, with no specified reserve requirements.

If this theory is correct, then energy-trading firms tend to combine three functions in one sets of hubs: trading, treasury operations and shadow banks. Such mixing of so many functions may

be advantageous to the trader, but in doing so create potentially several risks, including potential IFF risks.

To begin with, operating margins is an important measure of the profitability of a company. FOM goes against the basic rules of accounting and corporate finance (Ferran, 1999). Clearly, if it is not only the accounts of the FOM entities that are being ‘managed’, then the same must be true of the accounts of other corporate subsidiaries in the group. The practices may risk violating BEPS action plans 8, 9 and 10. The practices obscure not only the financial performance of entities associated with these hubs, but also of the group. The practice raises serious doubts about the quality of the accounts of the group, violating the notion that a corporate entity is an independent legal person, that they are trading with one another on an ‘arm’s length’ principle.

These practices decrease the ability of external parties to verify the constituent components of any consolidated financial reporting that might be made available. Regulators are not in position to verify which particular lines of business or market segments have the greatest impact on the overall financial performance of a group, where are commercial risks being born in the group, but equally what is the geographical and jurisdictional origin of economic activities, are all impossible to establish independently of the company directors revealing this.

Second, the phenomenon of the hubs that display FOM characteristics, which is due to extensive use of intra-firm transfers, makes it impossible to verify the value of energy trading to these businesses by independent bodies or regulators. Such opacity serves the commercial interest of the energy trading companies, but also renders it far more difficult to spot abnormalities in the underlying values of transaction deals. With increasing volume and/or value of transactions being concentrated in singular points of account and the mixing of so many functions can create space for illegitimate transfers that may be recorded as ‘expenses,’ ‘treasury operations,’ ‘hedging’ or ‘pooling,’ so that legitimate transactions are mixed with transaction of questionable design. The sheer volume of financial activities centred in a hub makes it far harder for auditors to spot abnormalities, placing higher requirements on the internal capabilities of managers and governance systems.

Put simply, the centralisation of financial functions in those hubs serves, among other things, to obscure the true costs or profits made through energy trading and thus makes it difficult to identify and isolate higher than usual profitable deals. Highly profitable deals carry IFF risk. The phenomenon of the FOM hubs make it much more difficult to identify and isolate such cases by auditors and regulators.

Case Study 3 of WS3 may be a case in point. The case documents illicit payments by ‘Guvnor’ to a Congolese agent. The case was discovered in 2011, when Credit Suisse, having acquired Clariden Leu Bank, performed its own independent auditing and due diligence and was alerted by suspicious payments amounting to more than \$30 million made by Guvnor to the accounts of several individuals. The case study also shows that when the energy-trading firm becomes in effect an unregulated shadow bank, the operations and transfers among different legal persons members of the group, and other external to the group, produces fragmentation of compliance, which can be exploited for IFF purposes. Although an external bank may be

involved in financing of a deal, the bank does not track the entire transaction through the series of legal person and may only satisfy themselves that the hub complies with AML due-diligence rules.

Case 3 is not an atypical case. Very often suspicious transactions remain undetected during a routine auditing account; and those that are discovered, are detected sometimes years later either due to new information from a whistle-blower, or as in this case, when a fresh auditing takes place for reasons such as described in case 3.

There is a third advantage to the concentration of dispersed financial activities in hubs. While energy trading activities is likely to be geographically dispersed across a number of markets with various points of origination and service responsibilities, particular jurisdictions appear to be chosen to organise the governance of these activities, the trend across the sector to locate these hubs in jurisdictionally targeted ways. We observe a move of trading from Western Europe to Singapore, Dubai, and Hong Kong (although Switzerland remains popular) (see WS3).

Some jurisdictions, such as Switzerland, stand out as in the case of Glencore, as locations where head office and energy trading is based. However, often the holding company is incorporated elsewhere, in Glencore's case in Jersey, itself a notable financial centre, the financial management is often located elsewhere. Singapore then stands out alone as the commonly chosen jurisdiction of incorporation FOMs entities.

The practice is leading to fragmentation of governance responsibilities. This implies that governance responsibilities are directed towards the jurisdictionally specific legal and institutional context that informs them, appears to be fragmented. Therefore, whereby there might be an appearance that trading is regulated by Switzerland because that is the location of a lead holding company, but the fragmentation of financial activities along hubs ensure that some, perhaps the vast majority of the group's activities are, in fact, regulated elsewhere. We note that Singapore scores highly on both the FSI and CTHI. The reasons for the rise of Singapore as a major, if not *the* major hub, of energy trading deserves, in our view, additional research. The practice creates spaces for regulatory arbitrage, and as such, creates additional spaces for discretionary decision making and money transfers with the corporate accounts – all which increase the potential of IFF risks.

We note that whichever jurisdiction is chosen, the phenomenon of the FOM ensures that those hubs entities are not recording a great deal of profit and hence they are not subject to a great deal of tax, if at all. Being located in a 'visible' jurisdiction does not pose a tax disadvantage to the group.

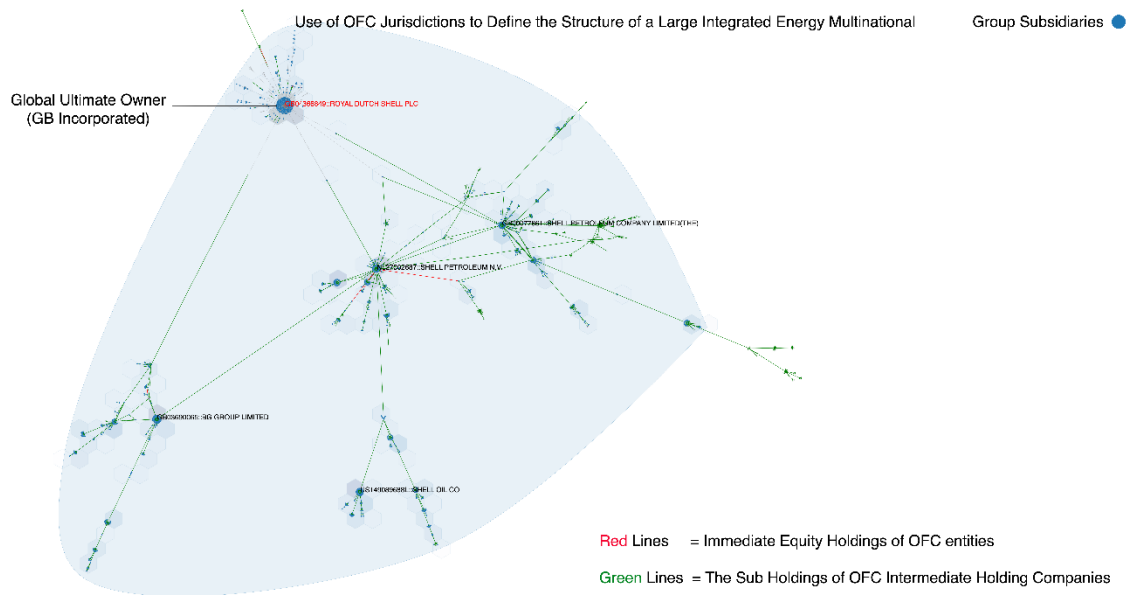
The practice of centralisation in hubs with FOM characteristics, which are often located not where the holding company is located, creates a series of layers of opacity, ensuring great difficulties for external audit/analysis of the underlying financial performance of the energy trading units within the group. It must be recognised, therefore, that the practice of FOMs, combined with other aspects described above, creates severe weaknesses in the system of corporate governance in the sector, a system that should serve as first defence against IFF risks.

### ***Heavy Reliance on OFCs by the independent sector***

Our analysis reveals, in addition, that the group of ‘independent’ energy trading companies (‘the Independents’) are heavy users of offshore financial centres (OFCs) for their holding companies, regional holdings and special purpose vehicles (SPVs). In particular, it appears to be normal behaviour across our sample of firms of independent energy trading companies to locate the highly concentrated, high value subsidiaries controlled by OFC-registered holding group structures (with the exception of Macquarie).



**Figure 7: The Use of OFC Jurisdictions, Shell, circa late 2019**

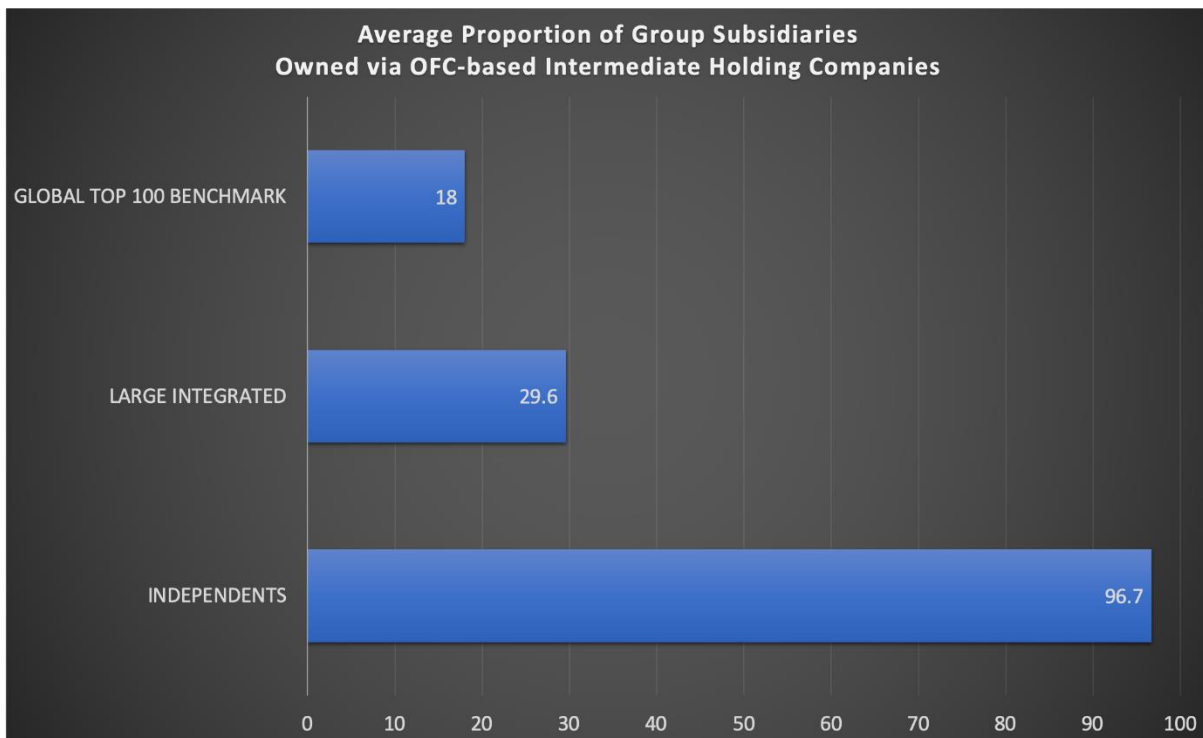


Figures 6 and 7 shows how groups like transfigure or Shell operate essentially through OFC centres. Trafigura’s GUO is incorporated in Curacao, a known OFC. All the key holding entities in the group operate through OFCs (the red lines) and the rest are controlled through intermediate OFC companies (the green line). Shell GUO is a GB company. The majority of its sub-holding entities are held through intermediate OFC companies.

Such behavioural pattern is not common in other sectors of the economy. A study conducted by the CORPLINK project reveals that the average proportion of group subsidiaries owned via OFC-based intermediated holding company among of the top 100 global industrial firms in the world in revenues in 2018 was on average 18% (Philips, et al., forthcoming). Our analysis of the energy trading sector shows that the figure rises to an average of 29.6% for the large integrated firms in our sample and rises again dramatically to 96.7% for the independent trading company sector!



**Figure 8: OFC-Controlled Subsidiaries**



Source: The Orbis database

Why do energy trading companies prefer to locate in OFCs? Our analysis could not determine whether the principal drivers for the excessive use of OFC-based subsidiaries by the independent energy trading sector is privacy (including autonomy vis-à-vis providers of capital or strategic and commercial), or secrecy which can be used as a legal shield to cover up illegal actions by these businesses. As mentioned above, there is a tendency to confuse privacy with secrecy – and these concepts are not easy to separate in practice.

The integrated and independent companies are highly sophisticated organisations, and they use state of the art mechanisms available in corporate organisation. It is highly unlikely that the level of opacity witnessed in this study is not intentional. The phenomenon of the hubs subsidiaries with a FOM characteristics, combined with such intense use of subsidiaries in such jurisdictions, renders any attempt at monitoring of the sector by the regulators, including by the Extractive Industries Transparency Initiative (EITI), nearly impossible.

We conclude, therefore, in our analysis of the corporate structure of the independent and integrated energy companies, that the sector as a whole is highly opaque. Opacity in the corporate organisation does raise risks of illicit financial activities.

## *National Oil Companies (NOCs)*

National Oil companies raise an entirely different, if related issues of good governance in relation to IFF risks. Our analysis suggests that the NOCs tend to be very simple organisations, often consisting of a small number of legal persons. An exception is the National Iranian Oil Company (NIOC), whose corporate structure is highly opaque and sophisticated, even by the standards of a sophisticated ‘western’ company. It may be that the structure of the NIOC has evolved to its current version as the company has been responding to sanctions.

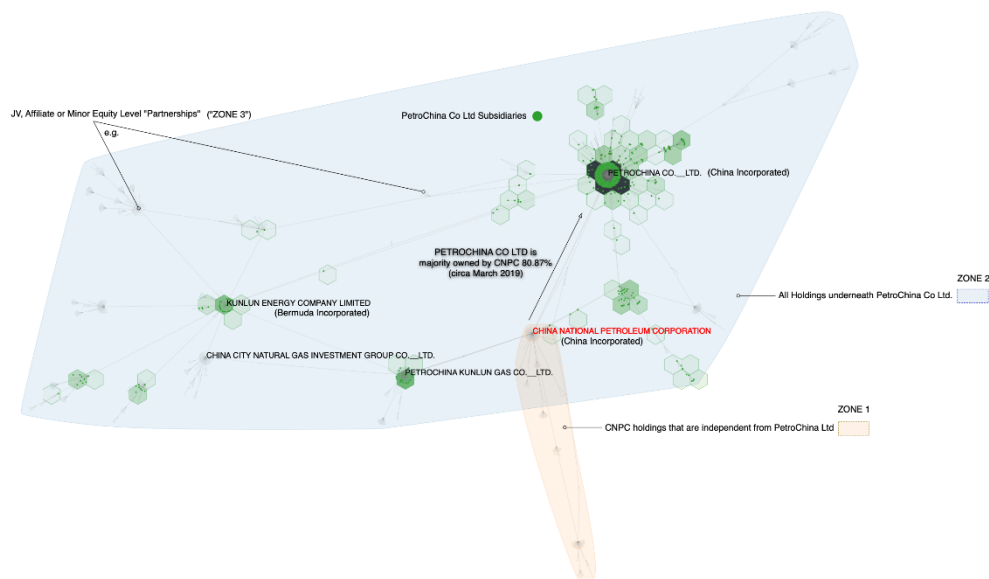
The NOCs in our sample appear to be relatively ‘moderate’ users of OFC jurisdictions. Data availability for this segment of the industry, however, is extremely poor. Only Sonangol (Angola) provides consolidated accounts. None, as far as we can see, provides audited accounts. Information on GEPetrol of Equatorial Guinea and Iraq National Oil Company (INOC) is so rudimentary we could not determine any entities linked with these organisations. Sonangol has the largest number of subsidiaries among those in our sample, 108, 14 of which are controlled through an OFC holding company.

The simple structures revealed by the data may accurately reflect highly standardised and compartmentalised management styles, with clear and direct lines of centralised control adopted by many NOCs. Alternatively, the structure can be much more complex, but many corporate entities may not be subject to the governance rules we describe above. The reason being that NOCs have greater discretion in choosing their mode of operation and the governance structure they wish to operate under.

The majority of the large integrated energy companies and increasingly the large independent firms are public companies. As such, they are allowed to raise capital by offering their shares and other securities to the investing public. Some independent trading companies tend to start life, however, as private companies, and those have few administrative obligation compared with public companies. Private companies tend to have fewer shareholders, all or most of whom are also involved in the management of the company. UK legislation, for instance, recognizes that there may be companies for which the demarcations between directors and shareholders are unnecessary and unhelpful, These type of organizations are considered quasi-partnership and are at least recognised in UK case law (Ferran, 1999). The rules regarding private companies, quasi-private or quasi-partnership and the like is subject to sovereign rules. A NOC may adopt, therefore, something more akin to a private company model, whose rules are determined in any case by sovereign, who, in turn, is likely to be the main or only shareholder.

This generates additional complexities and potentially new opportunities for IFF. We explain the complexity with the aid of Figure 9. The figure provides a schematic representation of the way the China National Petroleum Corporation (CNPC) chose its incorporation strategies.

### **Figure 9: Zone 1 and Zone 2, China National Petroleum Corporation (CNPC)**



CNPC established a publicly owned and listed group in PetroChina Co Limited (80% owned by CNPC), similar to other groups discussed in this report described in Zone 2 in the diagram. Zone 2 outlined in blue, includes the subsidiaries as well as the other forms of equity “partnerships”  $\leq 50\%$  of PetroChina. PetroChina’s entities subject to the typical reporting and consolidated accounts rules are highlighted in Green. The grey areas of entities are minority holding by PetroChina.

There is, however, another zone, which contains about 110 entities controlled by CNPC, represented under Zone 1 in the tan colour. This zone contains many of CNPC’s privately held entities. This zone is legally distinct from PetroChina, and thus not subject to the same corporate governance requirements and auditing as PetroChina itself is. Only six entities of those 110 Zone 1 entities are presenting consolidated financial accounts. All other financial reports are unconsolidated.

We notice a common practice among energy traders in Africa to adopt Zone 1 type of organisation based on disparate ‘franchise-like’ corporate entities (or what in the UK would be described as quasi-partnership), each with only individuals acting as the shareholders. In extreme cases, such as that of Sahara, the very existence of an overarching corporate group to account for the seemingly large-scale business undertakings controlled by ‘the group.’ The group presents itself as one unit to the market in its brochures, for instance. Indeed, WS3 interview representatives of the group. Yet, ‘the group’ itself does not exist through common holding of equity, and hence lack the basic frame of a legal identity. Needless to say, such organization is not subject to the corporate governance, auditing and reporting requirements we described above. This could be a concern because it is not clear who bears responsibility for the group’s actions.

One aspect of Zone 1 type entities that potentially could be of concern relates to the use of a class of dormant corporate entities (see Annexes A for detail). Dormant companies (sometimes referred to as ‘inactive’ companies) do own assets, and hence, have a ‘balance sheet’ in accounting terms. But they do not transact. Lacking substantive business undertakings, many regulatory environments grant upon these entities, and their directors, the benefit of much diminished reporting and auditing requirements. For instance, in the UK dormant companies must obtain only confirmation of balance sheet values and current ownership arrangements, called the ‘confirmation statement’.

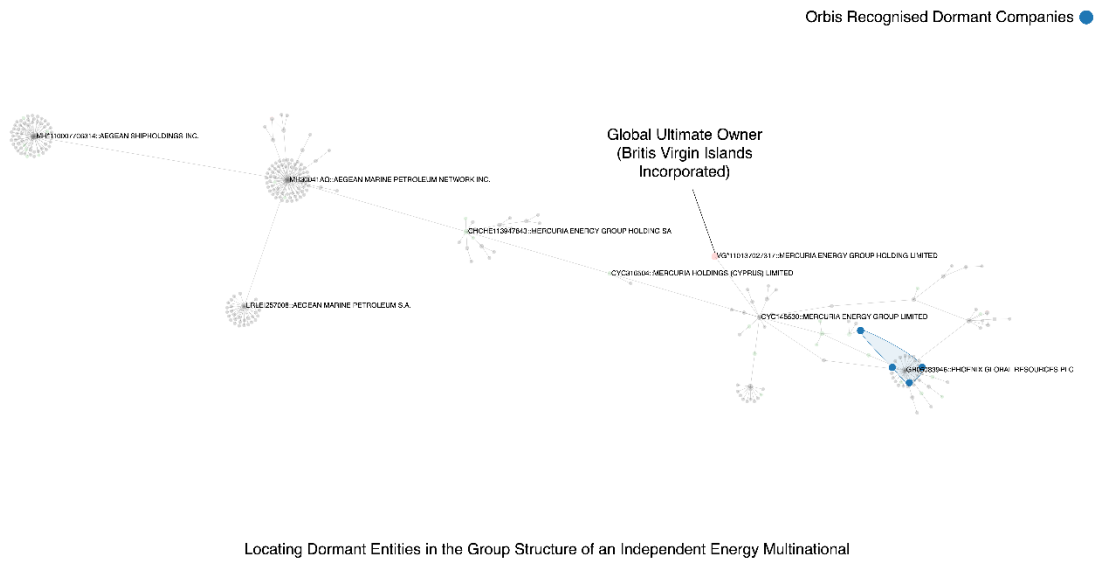
Normally, dormant companies would not raise IFF concerns. But they may, especially when combined with other factors such as location in secretive, lightly regulated environment (at least in accounting terms). In such cases, some parts of the corporate group may operate within the rules of a given jurisdiction, and audited as such, while others not. Petro-China, which is the audited parent responsible for, and consolidating the activities of a family of subsidiaries, is a regulated and audited group of companies. But PetroChina Co. Limited (incorporated in China), is itself part of a larger group owned by the Chinese state, China National Petroleum Corporation (CNPC) presents accounts that appear to be both unconsolidated, and unaudited. This means transactions that occur outside of PetroChina Co Limited, but nonetheless still within the control of the group as a whole, may operate in a context where regulatory oversight is minimal and not subject to external audit or public scrutiny.

In turn, the classification of dormant companies as ‘inactive’ can be misleading for a number of reasons.

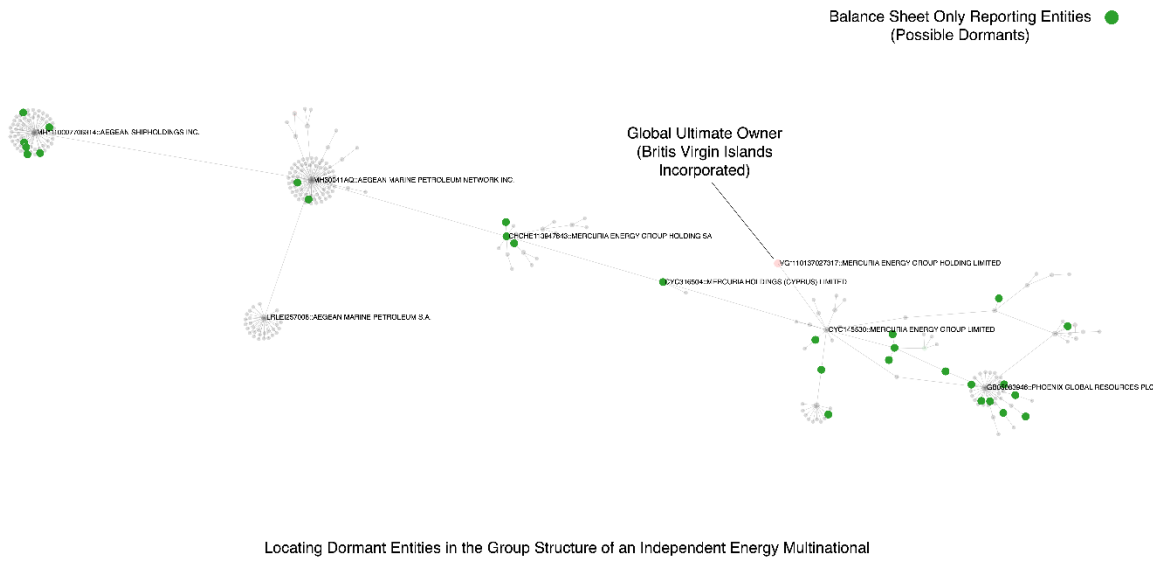
First, a dormant company can act as a ‘director’ for another corporate entity in a group. The use of dormant company which serve as director for other companies in a group could be classified as risk. The technique creates fragmentation in rules of reporting and compliance. The dormant company is a director of another company but as dormant, it is subject to diminished reporting and regulatory rules. The dormant can shield in such way vital information from auditors and regulators on the activities of entities under its control. Aware of this problem, countries such as the UK have moved in recent years to introduce regulations that explicitly seek to bar this area of abuse as part of anti-money laundering efforts, mandating that at least one ‘natural person’ has to be a director of a corporate entity. However, this is not the case in all jurisdictions nor is the enforcement of against such practices rigorously monitored. Consequently, dormant can be still used for such purposes in countries that do not follow the UK’s model.

Second, a dormant company can distribute shares exchanged in the market. In other words, it can function as instruments in the financial transactions between parties. This can potentially be another area of abuse. For instance, in the case of CNPC, one of its subsidiaries registered in the UK displayed dormant characteristics. This entity was located within the non-audited part of the CNPC (Zone 1), although it shares the name of the parent (audited) company, PetroChina Company Limited. Furthermore, directors of from PetroChina were registered as directors in the history of the directorship of this dormant company.

**Figure 10 Dormant companies recognised by Orbis: Mercuria, circa late 2019**



**Figure 11 Balance sheet reporting entities (dormant), Mercuria, circa late 2019**



The company was originally created with a shareholder value of one thousand GBP, but, as per our second criteria for an outlier event, its value rose dramatically over the course of two years to one £1 billion, and then again to £10 billion in the next year, placing it with a nominal value equivalent to over 48% percent of the capital value of actual PetroChina Co Limited! The transactions could occur without any UK oversight whatsoever, simply by virtue of the parties agreeing over a change in the ownership of the shares recorded and the dissolution of the

company. It is not clear whether mandatory compliance and AML rules were introduced in this transaction. What are the sources of these funds? What is their use and so on remains, for all intent and purposes, unknown.

Following the CNPC example, WS2 tried to gauge the *degree* to which dormant company controls other companies in-group, as practiced among energy trading companies. This proved to be a difficult task. The reason being that names of directors are not always reconcilable with specific corporate entities in a group. Consequently, an assessment of this area of risk was only pursued from the perspective of cases where dormant companies (proxied by the absence of any income statement, yet the presence of a balance sheet information), exhibited ‘unusual’ financial reporting signals like in the case of CNPC. The number of those cases are listed in column M, Annex A. A number of such incidences were picked up Vitol, for instance, has 15 dormant companies, of which 7 showed some outlier reporting characteristics in the past five years, or nearly 3% of Vitol subsidiaries. Since Vitol does not provide consolidated accounts, it is impossible to know the portion of its balance sheet carried by these dormant companies. Accounts for the NOCs are poor, but where available, Sonangol, two dormant companies were identified of which one displayed unusual financial activities in the past five years.

We have not been able to determine whether those dormant companies raise similar IFFs risks.

## CONCLUSIONS AND RECOMMENDATIONS

Energy trading is high-volume, ultra-low-margins, low-tax sector that capitalises on the available techniques of opacity in corporate organisation to ensure that values and risks are manoeuvred within the group, beyond public reporting requirements and hence, beyond a possibility for public scrutiny. Having said that, we cannot ascribe risk in a way that seeks to describe ‘energy trading’ unit specifically. Rather, risk emerges to be more about the nature of corporate governance of energy trading in general, and fundamentally, a risk that regulatory constraint on behaviours is what corporations are trying to overcome. This notion of risk as a corporate governance concern refers to three points emerging from the research.

1. First, corporate governance refers to the high degree to which energy firms legally structure activities in ways that make them more opaque for understanding how the underlying financial conduct works.
2. Second, it is a reference to the high degree to which that legal partitioning revolves around a multiplicity of jurisdictions.
3. Third, it is a reference to the important role played by holding companies located in secrecy jurisdictions and offshore financial centres.

Together, these behaviours point to a potential risk that is more about the modus operandi of corporate legal practices and the ways they are governed. Corporate efforts appear to be based around a principle of organising operations in ways that arbitrage on jurisdictions. As a result, it is very difficult to identify what behaviours are actually being regulated, who is actually doing the regulating, and to whom specifically in the corporate group that regulation is being applied to.

With regards to intensive deployment of subsidiaries in known OFCs. Whereas our analysis reveals that the sector, and in particular, the group of independent trading companies are heavy users of OFCs, we could not determine whether intensive deployment of OFC-based subsidiaries by the independent energy trading firms in our sample is driven primarily by privacy, secrecy or perhaps other concerns.

Considering the particular prevalence of jurisdictions that score high on both the FSI and the CTHI, we would recommend that the ACTT engage in discussions with these firms in a second phase of the project in order to learn why this sector behaves so differently compared with the top100 industrial firms.

Hubs entities that act as FOMs also raise concerns. The prevalence of ‘managed’ accounts impairs the ability of internal auditors, and even more so, regulators, to monitor group’s financial activities. Case no. 3 presented by WS3 provides a vivid example of why this could be an issue. There are no easy solutions to the auditing concerns raised by the phenomenon of the FOMs. It may be that additional or more robust auditing requirements should be recommended to the sector, and would be beneficial for all involved.

Those NOCs lacking strong internal accountability naturally raise concern. Furthermore, we believe that NOCs do not benefit from the situation either. Unless they are able to establish a robust and transparent system of government, they would have a limited ability to raise capital directly from the international markets and would have to rely (or their governments have to

rely) instead, as WP3 describes, on the independent or integrated energy trader for loans, raising IFF risks as described in WS3 report. We recommend the ACTT to establish a dialogue with those NOCs with the view of improving their systems of governance.

At this point, WS2 can only alert to potential misuses of dormant companies in energy trading groups. A number of cases were found to exhibit unusual activity in the past five years. It was not possible, however, to either verify the reasons for those unusual activities or purposes whether their uses, or benchmark the behaviour of trading companies against use of dormant companies in other sectors. This might be another potential area for discussion and dialogue between the ACTT and the sector.



## Outline of Future Research

Phase 1 of this research was driven by analytical considerations. The purpose of the analysis was to identify potential weaknesses in the system of governance of reporting of financial activities within the energy-trading sector. Our suggestions for further research are aimed at developing a more targeted research agenda that is better oriented to serve an informed regulatory response to abuse. We are minded that what is needed is not necessarily more regulations, but smarter regulations: Regulations that target specific issues of potential abuse, leading to lesser burden on states or industry.

We develop our ideas along two set of proposed research agendas. The first is aimed at achieving a great nuance and understanding of the regulatory implications of phase 1 research findings using data that is already available. The second entails extending and adapting the EM approach to spheres of energy-trading activities that were not covered during phase 1 of this research.

### *Improving on our findings using data that is already available*

Phase 1 has demonstrated that the energy-trading is sophisticated, yet highly opaque sector. We need to better understand how energy-trading firms adapt to regulation and how do they take advantage of diverging jurisdictions and their rules.

Several steps appear necessary in this process.

First, we have identified the importance role of trading hubs/FOMs and specifically, the use of specific jurisdictions as locations for those FOMs, while others as location are used as locations of the holding company. These findings raise a new set of questions about the role of these trading hubs. Why are we witnessing a move towards Singapore? Why hubs and holding companies tend to be located in different jurisdictions? What are the comparative advantage of one hub location as opposed to others? What is the relationship between those hubs and OFCs? Understanding those question will help in formulating policy proposals.

Second, during the relatively short period of the CORPLINK project, and even the shorter period of research of phase 1, we have encountered across the board a certain degree of adaptation and evolution in corporate organisation among the energy-trading firms. Anecdotally, some of the changes in the corporate structure appears to have taken place weeks, or even days, after an issue or policy inquiries appearing in the press. We would need, however, to develop a more systemic understanding of the dynamics of evolution and change in corporate organisation and response to regulatory or legal proceeding. We propose therefore, to conduct an examining of one or more big trading firms to study their response to regulatory or other events through the use of time series data. Time series data can be available on Orbis but at additional costs. Such analysis would require collaboration with person(s) with expertise and knowledge of important legislations and knowledge of the firms under investigation.

Third, related but more broadly. Beyond what was achieved so far, phase 1 data would benefit from engaging with forensic accountants and/or BEPS specialists to rule out any commercial drivers underlying corporate structures, so as to enable team to move from describing organisational structure to drawing conclusions re: IFFs. Note that the usefulness of such an

exercise might rely on access to individual company financial statements and the likelihood/feasibility of this prerequisite needs to be canvassed.

### *Extending scope of EM towards new areas of concern*

The majority of the firms in our sample are typical public companies operating in the what we described in report as zone 2. We have learned during this phase of research that not all energy trading business or firms operate only in zone 2, and some, particularly smaller one may not at all. We mentioned above that due to sovereign privileges, NOCs in particular, are able to create a variety of private companies, and those are subject to fewer, if any reporting and auditing requirements (Zone 1).

We have learned that smaller and localised energy-trading groups such as Sahara or OandO operate under organisational arrangements that is more akin to zone 1. They would be classified under English common law as sort of private companies or semi-partnerships. But they do not 'fit' exactly any of those categories of corporate organisation. We do not know how prevalent are such organisations are, and where? Nor do we have a clear understanding of the reporting, auditing and compliance rules they operate under. Considering the importance of this group of organisations, particularly those serving as local partners or agents to international energy and energy-trading firms, we believe that an analysis of a selected 20 such organisations will be required to obtain the necessary data to support informed regulatory proposals.

During our research, and in discussions with WS1 and WS3, we became increasingly aware of the potential importance of what may be described as Zone 3 sphere of corporate activities. Zone 3 represents minor equity positions in affiliates, partnerships, agents or joint ventures and the like. Crucially, zone 3 activities are generally not included in the firms' consolidated accounts, and would generally be subject to lower compliance and reporting thresholds. Zone 3 type of activities could be substantial. For example, PetroChina (a Zone 2 organisation), in turn, built a large minor equity partnerships of about 291 distinct first tier partners, as part of a Bermuda based holding company Kunlun Energy.

Among zone 3 types of activities, anecdotal evidence, as well as the case studies compiled by SW3, often found that minority holdings, local partners, subcontractors and in particularly joint ventures (JVs) tend to be implicated in known IFF cases. During phase 1 of the project, it became clear that JVs in the energy sector warrants particular attention because of;

1. National governments would often insist on JVs to safeguard their financial interests.
2. Energy-trading firms have great incentives to set up JVs with local partners believing that those offer greater protection from the vicissitude of local politics.
3. On the face, JVs offer the best of both world: National government get access to the technology, capital, shipping and marketing savvy of the energy-trading firms, whereas the energy-trading firm get access to the raw material in needs.
4. However, this is an area most open to the distributional battles over extraordinary rent generated in this sector, and hence more open to abuse.
5. Considering the lower reporting requirements that JVs are subjected to, there is greater leeway for discretionary decisions and payments in joint-ventures most of which will be acknowledged in the group's consolidated accounts. In addition, JVs increase the level of fragmentation of compliance.

6. These are often national strategic assets and are extremely important to government budget. Thus the loss to a country due to dubious partnerships in this sector can be said to be particularly serious.

In light of the preliminary findings of the project during phase 1, WS2 was asked to conduct a scoping exercise to learn whether the technique of equity mapping described above can be developed further to the study of zone 3 IFF risks. Our overall conclusions from this preliminary scoping exercise was that:

1. It is possible to map out what is likely to be a considerable portion of zone 3 type of activities in this sector.
2. Zone 3 research raises a host of methodological and conceptual issues, including decision on which types of links are of interest (minority shares, JVs, partnerships, and the like).
3. The longer the list of links under investigation, the more complicated the picture becomes
4. We believe that many of the conceptual and methodological issues are in principle resolvable, but they would require an adaptation of the approach as described above. It would be necessary to have a discussion with the firms in order to verify the Orbis data.
5. In our opinion, there is great value of having a small number of deep-dive case studies, so we can go into more detail and actually tease out the IFF risks.

We are recommending, therefore, developing a more targeted approach towards the study of zone 3 relationship in the second phase of this project, focused on smaller number of corporate groups or countries.

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