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Transparency in extractive industry commodities trading

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Abstract: The paper reviews the debate about transparency in extractive industry commodities trade. It examines the obstacles to improved transparency. A critical review of the experience with estimating losses from a lack of transparency concludes that many of the published estimates of losses from transfer mispricing and misinvoicing suffer from methodological deficiencies and appear to be exaggerations. The role of finance in extractive commodities trade is briefly discussed and it is noted that lending to companies owned by the state may affect the government's standing with donors and investors. The most important transparency and responsible sourcing initiatives are reviewed. The initiatives appear to have had some positive effect on public financial management, investment climate, and economic growth. The experience of government-initiated responsible sourcing, including for conflict minerals, concludes that initiatives must include all or almost all market participants and that the cost of due diligence be equitably shared. Finally, a number of recommendations are made.

Key words: transparency, commodity trading, extractive industries, conflict minerals, responsible sourcing, transfer mispricing, misinvoicing

JEL classification: H26, K42, L71, L72

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1 Introduction

Efforts to promote transparency in commodity trading have a long history, although the efforts have flowed from different contexts and have had different rationales and justifications.

In the 1970s and 1980s, transparency of commodity trading was widely seen in terms of more and better statistical information about international trade flows and prices. Transparency assumed importance as an alternative to more ambitious policies that aimed to reduce commodity price fluctuations and was seen as a way of promoting allocative efficiency.

The 'resource curse' debate in the 1990s and early 2000s gave rise to another angle on transparency. Resource curse effects included capture of revenues by elites, stunting the development of tax systems and exacerbating regional and community tensions. The debate concerned most aspects of extractive resource governance: bidding, exploration, licences, contracts, operations, revenues, trade, local content, transit, services, allocations, and spending. Many authors outlined remedies for addressing the curse, often noting that no single action would be capable of tackling all of these challenges.[1] However, the recommendations emanating from the literature were clear: transparency and dialogue had to be part of the starting point. It was argued that a lack of transparency creates an environment that favours corruption in developing countries that depend on the extractive industries. Accordingly, increased transparency came to be seen as a way of limiting practices, both by governments and by extractive industry companies, that entail the diversion or non-collection of revenues that would otherwise accrue to the governments and peoples of countries producing extractive commodities.

The first tangible result of this view of transparency was the creation of the Extractive Industry Transparency Initiative (EITI) in 2003, grounded in evidence of commodity trade facilitating or being used for illicit financial flows. It was believed these practices would diminish if information was made public, thus stimulating countervailing pressure from civil society, the media, and legislatures for more transparency. The focus was on improving information about financial flows. The 54 member countries of the EITI commit to the EITI standard, which requires the disclosure of information along the extractive industry value chain from the point of extraction, to how revenues make their way through the government, and how they benefit the public.

At the same time, in 2003, the Kimberley process was established. Its goal is to prevent the flow of 'conflict diamonds'; that is, diamonds where the proceeds of diamond sales are used to finance armed conflict. While the purpose was not to specifically improve transparency, increased disclosure of transactions was a crucial part of the process.

The Kimberley process was credited with contributing to the end of civil wars in West Africa, and its success presumably inspired other similar initiatives such as Section 1502 in the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010, which requires companies reporting to the Securities and Exchange Commission (SEC) of the United States to report their use of 'conflict minerals'. At the time of writing, the section is suspended. Meanwhile, however, the European Union (EU) has introduced similar but more wide-ranging legislation of its own, which will enter into force on 1 January 2021.

[1] The resource curse debate is reviewed by Lahn and Stevens (2018). See also Dietsche (2018) for a discussion of the resource curse with an emphasis on governance and institutions.

The Kimberley process and the Dodd–Frank legislation were the precursors of a number of initiatives that aim to promote 'responsible sourcing' of commodities, where transparency about the actions and procedures of participating organizations occupies a central position. These initiatives form part of a broader trend of sustainability/responsibility schemes and codes such as the Equator Principles,[2] the Natural Resources Charter,[3] and the Responsible Minerals Initiative,[4] all of which rely heavily on publication and openness. As observed by Cust (2018: 403), such codes can (i) bring credibility and rigour, by providing a reference for best practice; (ii) provide decision makers with an anchor to which they can attach a commitment and limit their own government's choices; and (iii) facilitate changes in government behaviour by sending a signal to constituencies that decision makers are honest and serious about the need for change.

It is possible to see a progression in transparency initiatives, where the focus has widened gradually to encompass virtually all aspects of the extractive industry.[5]

To attempt to provide a comprehensive overview or analysis of this sprawling field is clearly beyond the scope of one paper. The purpose of the present paper is more limited: to provide a critical review of the current debate about transparency in extractive industry commodity trading. The paper deals only with extractive commodities, that is, fuels and non-fuel minerals, mainly because the debate and practical transparency measures have focused on these commodities. It also deals only with transparency in trade. There are certainly important problems with transparency in the production and processing of extractive commodities, possibly more important than those related to trade, but they are usually of a different nature.

The paper will, in particular, attempt to provide at least the beginning of answers to the following questions:

- Can commodity trading be more transparent?
- Does lack of transparency matter?
- What are the benefits and costs of greater transparency?

Sections 2 and 3 deal with the first two questions, respectively. Section 4 attempts to answer the third question. Section 5, finally, presents some tentative conclusions.

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[2] The Equator Principles is a risk management framework, adopted by financial institutions, for determining, assessing, and managing environmental and social risk in projects. The framework is primarily intended to provide a minimum standard for due diligence and monitoring to support responsible risk decision-making. The principles have been adopted by 108 financial institutions in 38 countries. They apply globally, to all industry sectors and to four financial products: (i) Project Finance Advisory Services, (ii) Project Finance, (iii) Project-Related Corporate Loans, and (iv) Bridge Loans (see Equator Principles Association 2020).

[3] The Natural Resource Charter is a set of principles for governments and societies on how to best harness the opportunities created by extractive resources for development. It outlines tools and policy options designed to avoid the mismanagement of diminishing natural riches and ensure their ongoing benefits (see Natural Resource Governance Institute, n.d.).

[4] The Responsible Minerals Initiative provides companies with tools and resources to make sourcing decisions that improve regulatory compliance and support responsible sourcing of minerals from conflict-affected and high-risk areas (see Responsible Business Alliance 2020).

[5] Hodge (2018: 371–72) cites 45 different initiatives aimed at improving the performance of the mining and metals industry over and above the formal legal system. He emphasizes that his list is not exhaustive.

2 Can commodity trading be more transparent?

2.1 How does the extractive sector compare with other industries?

Before discussing the reasons for a lack of transparency that is generally taken for granted, it could be useful to briefly compare the situation in the extractives industry with that in other sectors:

- With regard to payments and financial flows, it is easy to argue that, rather than being more opaque than other sectors, the extractives industry is actually more transparent. Initiatives such as the EITI are absent in most other industries. It can, of course, be argued that the reason for the EITI is precisely that illicit payments are more frequent and a greater problem in the extractive industry than in other sectors. However, as shall be seen later, the basis for such claims is not as strong as is often thought.
- With respect to transparency about products and their movements, there appears to be little difference between industries. All international industries today face demands concerning traceability, responsible sourcing, and tracking of supply chains. While these demands may sometimes have their origins in concerns about conditions in the extractive sector, they now concern more or less all international trade, and for the food industry and trade, for instance, such transparency concerns have become a crucial determinant of competitiveness.
- Transparency to facilitate assessment of observation of social and environmental standards also concerns all sectors. General and industry-specific standards have proliferated and are observed in similar ways across the world economy.

Accordingly, the reason to be particularly concerned about transparency may have less to do with a lack of transparency being particularly frequent or challenging to companies in extractives and more with the perceived magnitude of problems related to corruption and illicit financial flows as well as the importance of the extractive sector to the economies of many developing countries. Without going too far into a subject that is obviously complex, it could be argued that the extractive sector is over-represented in countries that lack administrative and commercial infrastructure because it is less dependent on such infrastructure than other industries, the existence of natural resources being the main determinant of location choices. It could also be argued that economies with these characteristics also tend to have weak institutions, which means that barriers to corruption are low. Thus, a seeming characteristic of the sector could in fact be due to it being able to grow in countries that are shunned by investors, particularly foreign ones, from other sectors. This being said, trade in extractive commodities faces specific challenges that are different from those encountered by extractive sector-producing companies. These challenges will be discussed in the following section.

2.2 Characteristics of extractive commodity trading

Trading and producing companies

Within the extractive sector, there are important differences between the trading and the production parts of the supply chain. A mining or oil company has a long-term interest in maintaining good relations with governments of host countries and with local communities where it operates. It has large fixed assets that bind it to a specific locality and it has to apply a long-term perspective to everything it does since the economic life of its main assets is measured in decades rather than years. A company trading extractive commodities, on the other hand, does not need large amounts of investments in fixed assets, only sufficient working capital to pay for the commodities under its control. Usually, trading companies have no difficulty financing this working capital since the commodities themselves are used as collateral and standard trade finance procedures ensure that lenders see their exposure as low risk. Consequently, trading companies do not need to raise finance on capital markets and, therefore, mostly (there are exceptions, but they are a minority) do not have to worry about the views of shareholders or bond owners. They are generally private, owned by their founders and/or by employees. Not having to deal with shareholders or comply with the exigencies of exchange listings means that formal transparency requirements are modest. This is an important difference from publicly traded companies, or at least those whose shares are traded in well-regulated stock markets, who are more dependent on the exigencies of environmental, social, and governance investing. There are some very large international commodity trading companies, a few of which are listed on exchanges, but most are small enterprises consisting of a few partners with the necessary skills. In principle, they can operate out of any country offering favourable legal and tax conditions and an adequate financial services infrastructure. However, larger trading companies tend to be clustered in a few locations: Switzerland (mainly in the cantons of Geneva, Zug, and Ticino), Singapore, London, and Dubai. The Swiss cluster is particularly important both from an international perspective and for the Swiss economy (revenues from commodities trade accounted for 3.8 per cent of Swiss gross domestic product (GDP) in 2017; see Federal Council 2018: 12).

When discussing extractive industries trade, one should be aware that trading happens in many forms and under very different conditions. Not all commodity trading companies are exclusively focused on trading. Neither can all companies that trade commodities be characterized as trading companies. Some trading companies own stakes in producing operations. Glencore, which is a major mining company as well as a commodity trader, is maybe the best example. But several other trading companies, particularly those active in oil trading, own production facilities. It is, however, more common that such companies own physical trading infrastructure such as storage facilities or ports, where the links to their core business are closer. Major oil and mining companies are also active traders. Apart from the obvious fact that a large portion of trade in most extractive commodities takes place directly between producer and processor, some producing companies have diversified into trading. Most oil companies need to trade at least some crude oil in order to optimize supplies to refineries. Once having developed the capacity and the skills to trade, they can apply those skills to transactions where they themselves are not part of the regular supply chain. Similarly, mining companies such as Anglo American have developed trading activities as a means of diversification.

Financing commodities trade

Financing arrangements are becoming an increasingly important element of commodities trade. As a result partly of changes in banking regulations with banks being required to hold more own reserves and the assets held in reserves being risk weighted, international banks have reduced their exposure to lending in developing countries and particularly to lending involving commodities. Since equity and debt markets are usually difficult to access for extractive industry companies in developing countries, buyers of commodities are one of the few sources of credit remaining to these companies.

The transactions carried out by commodity trading companies often demand capital resources far exceeding their own capacity. Commodity trading companies borrow with the commodities traded as collateral and, as a result, are significant short-term borrowers. Banks provide short-term credit secured by the commodity in the form of letters of credit. The debt is repaid from the proceeds of the sale of the commodity.

In traditional trade financing using letters of credits, the lender can have recourse to the traded commodity in case of non-fulfilment of the contract. Other types of financing are also possible in commodity trading, most importantly prepayment, where the buyer extends a loan to the seller which the latter uses as working capital.[6] The trader's role in these loans may be simply as an intermediary who transmits funds from a commercial bank. In this case, the trader performs a service that consists of helping the seller to locate finance. The trader can also be more deeply involved, providing part of the loan from their own funds. Usually, the buyer makes an advance payment to the producer for future deliveries, with repayments backed by commercial contracts between the two parties. The trader structures the financing, and usually opens the arrangement to a consortium of banks, with the trader being the borrower and assuming part of the risk in order to reassure the banks.

Commodity trading companies can pay cash even before a product has reached the final customer. Since the buyer may pay only after several months, depending on the type of transaction, the producing company may need funds in order to keep producing. The trading company takes on the financing costs and may even provide more working capital than is needed for an individual transaction.

Commodity trading companies and transparency

Reliable data about the commodity trading industry are scarce.[7] The following quotation from a study based partly on a number of interviews with trading companies is illustrative:

> The interviews performed for this study confirmed that the commodity trading sector is largely secretive and unknown. There is little research available on trading companies, especially in the mineral and metal sectors—a situation that largely persists. Without solid basic facts about number of companies, traded commodities and revenues, it is difficult to arrive at more than a preliminary understanding and rough estimate of tax risks and how to address them for either host countries (where the mines are located) or home countries (where the trading company is incorporated or has a tax base). (Löf and Ericsson 2019: 1.)

Companies trading extractive commodities have been involved in a large number of affairs where they have been linked to corruption and abusive trading practices. Through court cases and investigations by non-governmental organizations (NGOs) these affairs have been widely publicized and have earned the industry a reputation for questionable ethics (see, for instance, Berne Declaration 2012). There are signs, however, that the extractives trading sector is changing its approach to transparency. The change is led by a few large companies. In 2014, Trafigura, a privately-owned trading and logistics company that has its main base of operations in Geneva but its corporate headquarters in the Netherlands, was the first large commodity trading company to support the EITI. It has pioneered a policy of transparency since then, including through the annual publication of a 'responsibility report' (Trafigura 2019). Glencore, one of the few publicly owned trading companies, based in Zug, Switzerland, and which as mentioned also has important mining activities, has followed with an annual sustainability report of its own (Glencore 2019). Other large trading companies, including Gunvor, Mercuria, and Vitol, all based in Geneva, have introduced internal governance or ethics codes. Most of the Swiss trading companies also pledge to follow guidance on implementing the United Nations Guiding Principles on Business and Human Rights (Federal Department of Foreign Affairs 2018). This guidance was prepared by the

[6] An explanatory introduction to prepayment in commodities trading is provided in Trafigura (undated).

[7] For example, according to a report based on data provided by the Swiss Trading and Shipping Association, the commodity trading sector employs 36,154 people in Switzerland while the Swiss NGO Public Eye estimated the number at 7,594 (Public Eye 2018: 11).

Institute for Human Rights and Business for the federal Swiss government in consultation with a multi-stakeholder advisory group that included representatives of the Swiss Trading and Shipping Association as well as two trading companies (Cargill and Glencore). However, their reporting on these matters is so far very sparse and the guidance does not include any legal obligations.

The most recent EITI standard, from 2019, includes reporting requirements concerning sales by state-owned enterprises (EITI 2019: Section 4.2). The requirements are significantly more demanding than in earlier versions of the standard. For instance, governments must disclose volumes sold and revenues received, disaggregated by individual buying company. Multi-stakeholder groups, in consultation with buying companies, are expected to consider whether disclosures should be broken down by individual sale, type of product, and price. Given the controversies surrounding sales of oil by state-owned oil enterprises to international trading companies (see Section 3.1), the tightening of the requirements is significant.

Another important development is the introduction of a responsible sourcing requirement for metals traded on the London Metals Exchange (LME). The requirement is based on the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD 2016) and it will be phased in from 2020, leading to full responsible sourcing compliance on both transparency and standards for all LME brands by the end of 2024 (LME, undated). The requirement is likely to make it difficult to trade metal brands that do not meet it and significant price penalties would be expected for producers of such metals.

2.3 What are the challenges to increasing transparency in extractives trading?

Broadly speaking, there are three reasons for a lack of transparency in extractives trade: cost of public information, commercial confidentiality, and hiding of illicit transactions. All three also apply equally well to other sectors.

The cost of public information

Some of the lack of transparency can be attributed to insufficient or expensive availability of data as well as errors in the public data. Public statistics on international trade have improved somewhat over the past several decades in terms of accuracy and, most importantly, timeliness, mainly as a result of improvements in the quality of national statistics. Much effort has gone into strengthening statistical offices in developing countries. Nevertheless, improvements in the statistics published by international organizations such as the Bretton Woods institutions, the United Nations Statistical Office, the United Nations Conference on Trade and Development (UNCTAD) or the Food and Agriculture Organization (FAO) of the United Nations are less evident. The reason is partly lack of resources. The production of data has been given lower priority than earlier, which has led to reductions in scope[8] and, most importantly, in the vetting and correction of data. Earlier, international organizations commonly compensated for the low quality and lack of timeliness of national statistics by inserting estimates where data were missing or clearly erroneous. This practice has mostly had to end due to lack of qualified staff, but also because it was less easy to defend as the quality of national statistics improved. Pushback from individual governments may also have

[8] For instance, UNCTAD used to publish comprehensive data on production, consumption, and trade of commodities (see, for instance, UNCTAD 2003), but this activity was discontinued in the early 2000s, following staff cuts. Today, UNCTAD publishes only price series for commodities and the same trade data as for other merchandise (although attempts are made to compensate for gaps or obvious errors through estimates). Similarly, FAO has reduced the publication of data concerning agricultural commodities.

played a role.[9] The result is that errors are still common and that they are often of a magnitude that either make broad analyses impossible or require time-consuming efforts to carry out the necessary corrections—corrections that moreover necessitate detailed knowledge of the markets in question. A study on copper trade based on data in the United Nations Comtrade (undated) database found approximately 650 records that had to be edited in a database of 37,000 records that had been constructed of pairs of importers and exporters because they showed improbably large deviations from the time series trend. This number did not include discrepancies visible in a 'mirror analysis' (Tercero and Soulier 2016; also see discussion about mirror analyses in Section 3.3). The number is less than 2 per cent, which may appear small, but uncorrected discrepancies can of course be very large and there is no particular reason to assume that the magnitude of the errors follow a normal distribution.

It is worth observing that at the same time as the quality and availability of public statistics has at best remained unchanged, the quality and offering of privately produced information from various sources such as Bloomberg and Platts as well as private databases on various aspects and performance parameters of the industry has improved dramatically. However, the providers of this information expect to make a profit from it and therefore charge for its use. As a result, transparency suffers, since not everybody has equal access to the information. Therefore, while it is easy—if one pays—to find good estimates of the cash cost of all cobalt mines in the Democratic Republic of the Congo (DRC), it is difficult for the general non-paying public to know the production of cobalt in the DRC last year with any precision.

Commercial confidentiality

Commercial confidentiality is another reason for lack of transparency. The advantage given by superior access to information can be seen as a manifestation of market failure, for instance, in the case of insider information. But using the advantage afforded by superior understanding of the way markets function comes under the heading of rewards to skill. While balancing or eliminating the impact of market failure increases economic efficiency, allowing superior skills to be rewarded enables the economy to function more efficiently.

Initiatives such as the EITI have continually had to balance legitimate confidentiality interests against society's interest in openness. When it comes to commodities trade, confidentiality considerations assume a particular importance, since complete transparency would risk reducing the value of trading companies' most important asset: their knowledge of markets and trading practices. One could note that trading companies are under no obligation to charge every customer the same price or pay all sellers equally. Neither do they have to provide their customers with all relevant market information. It is not illegal per se to make one customer pay a higher price than all the others. It may be the customer's own fault for not checking better or it may be a consequence of the way the market is organized, for instance, with different prices in long- and short-term contracts and differing options for pricing.

While many commodity trading companies would be reluctant to publish details of their commercial transactions, it should be pointed out that the reluctance may be alleviated by the exact modalities for the publication. Specifically, *ex post* publishing of details may be more acceptable to trading companies if the publication takes place well after the transaction has been carried out. Any commercial damage arising from information that is published with a delay of two years, as is generally the case with disclosures made under the EITI, should be considerably less than that

[9] See, for instance, *The Economist* (2020) for an example concerning Tanzania and data published by the International Monetary Fund.

caused by information that is made public immediately after the fact. However, such information may still be very useful from the point of view of authorities wanting to prevent corruption or tax evasion.

Finally, it should be noted that the protection given by legislation to commercial confidentiality is not always absolute and that practices are evolving. Thus, the Australian iron ore producer Fortescue Metals Group (FMG) recently lost a case in the High Court of England and Wales against information providers Argus Media and S&P Global Platts over the confidentiality of information relating to the Dry Metric Tonne Unit discount offered by FMG to its long-term contract partners. The court held that the public interest in publishing the discount information outweighed the public interest in protecting the confidentiality of what FMG submitted as commercially sensitive information which it had a commercial interest to protect (England and Wales High Court 2020).

Hiding illegal or reputation-damaging transactions

Finally, the most politically relevant reason for lack of transparency is that those who can decide if the information is going to be published may be the ones who either are incapable of preventing or benefit from illegal transactions such as smuggling, money laundering, theft and tax evasion, as well as transactions that carry reputational risk such as tax avoidance or non-observance of industry standards.

Producing and consuming companies may use transfer mispricing and under- or over-reporting of volumes (in addition to other methods that do not involve trading), while trading companies may strive to make profits show up in the most favourable jurisdiction from a taxation point of view. Both may link trade to finance in ways that could serve to limit tax exposure. Trading companies may also collude with producing or consuming companies in hiding questionable transactions. All of these transactions may be facilitated by corrupt officials.

Other illicit flows include using trade in extractive commodities for money laundering using fictional or misrepresented trades, theft, or smuggling. Gold and gemstones produced by artisanal miners are often smuggled, sometimes because the miners are in the informal sector and do not wish to draw the attention of authorities, sometimes because differences in taxation between neighbouring countries enhance the profits to be made from smuggling (see Box 1 for a particularly interesting example).

Box 1: Incentives for smuggling—Togo's gold exports and the role of export taxes

According to international trade statistics, Togo exported more than 20 tonnes of gold in 2014 (United Nations Comtrade, undated). However, there was—and still is—very little gold mining in Togo, with the production counted in kilogrammes rather than tonnes. As revealed by a Swiss non-governmental organization (NGO), Berne Declaration (which has since changed its name to Public Eye), in 2015, most of the Togolese gold exports came from Burkina Faso and consisted of gold from informal or illegal mines that did not pay taxes in that country and did not observe regulations (see Berne Declaration 2015). Since some of the production appeared to come from mines using child labour, the due diligence procedures of the Swiss gold refineries that imported the gold from Togo, and which banned child labour, appeared not to have been effective and the gold refineries suffered a loss of credibility. Swiss imports of gold from Togo abruptly ceased, and from 2016 the gold went instead to Lebanon and the United Arab Emirates (United Nations Comtrade, undated; UNCTADstat, undated).

The reason why informal gold miners in Burkina Faso channelled their exports through Togo was the much lower royalties and export taxes in the latter country. Togo imposes an export tax on gold corresponding to 4.5 per cent of the value. However, the gold price used to calculate the value is the *prix* *mercurial* or official price, which is established by the Togolese authorities at 1,000 francs CFA per gram (Government of Togo 2010), or 56 USD per troy ounce, compared with a market price in August 2020 of close to 2,000 USD. Consequently, the tax, at 2.52 USD per troy ounce, is negligible. Only two companies had the necessary permits to export gold. It is not clear why the Togolese government has decided to apply this price. However, it is clear that the deterrent effect on any smugglers of gold from Burkina Faso is likely to be limited. The practice has continued after the revelations by the Berne Declaration and after Swiss refiners have ceased buying gold from Togo. According to United Nations Comtrade (undated), Togolese gold exports in 2018, the latest year for which data are available, were a little over 10 tonnes, worth about 18.3 million USD, implying that the price used to calculate the value was still 1,000 francs CFA per gram. Comtrade does not adjust the trade values reported by national authorities. It can be noted that UNCTAD estimated the value of Togo's gold exports the same year to be 240.5 million USD (UNCTADstat, undated).

Source: authors' compilation based on various sources cited in the text box and United Nations Comtrade (undated) and UNCTADstat (undated).

2.4 Summary conclusions

While it is true that extractive industries face serious governance challenges with regard to public financial management, the physical environment, and many social issues, it is less obvious that these industries are particularly prone to corruption or tax evasion compared with other industries of similar size. The reason why one should be particularly concerned about transparency in extractive commodities trading may have less to do with lack of transparency being particularly frequent or challenging to companies in extractives and more with the importance of the extractive sector to the economies of many developing countries.

There are differences between the production of extractive commodities and their trade. Because of the long life of their investments and their fixed location, oil and mining companies are obliged to adopt a long-term perspective. They are also generally responsible to shareholders and to various other groups with whom they have to work over long periods of time. By contrast, commodity trading companies do not put down deep roots and risk missing opportunities if they are too closely tied to a specific geographical location. They are also usually privately held. The result is that, on the one hand, trading companies may be less likely to engage in long and cosy relationships with local elites in commodity producing countries; on the other hand, they may have less interest in being a good corporate citizen. A more important difference, however, is that whereas the rent from a producing operation is often very large and constitutes an attractive target for corrupt politicians and companies alike, the surplus that can be appropriated from trade deals is usually significantly smaller, thus maybe reducing the risk of diversion of rents.

However, this conclusion must be qualified in the light of the fact that trade is increasingly linked to financing arrangements. As a result partly of changes in banking regulations, international banks (with the exception of Chinese banks) have reduced their exposure to lending in developing countries and particularly to lending involving commodities. Since equity and debt markets are usually difficult to access for extractive industry companies in developing countries, buyers of commodities are one of the few sources of credit remaining to these companies and trading companies have therefore become important financial counterparts. This development raises issues concerning transparency that will be addressed later in this paper.

Commodity trading companies are traditionally secretive and reliable information about their activities is rare. However, while they have been involved in several well-published affairs of corruption, there are signs of the trade becoming more open and accountable. Recent developments include tightened reporting requirements in the EITI and the introduction of a responsible sourcing requirement for metals traded on the LME.

There are three reasons for a lack of transparency in extractives trade.

The first reason is that the difference between the information that is freely and easily available to the public and what can be acquired by those with an ability to pay appears to have grown over the past couple of decades. However, if transparency is a commonly shared important objective, it should not be difficult to raise the funds necessary to improve the quality of publicly available information. Switzerland, which is home to many of the most important commodity trading companies, has taken an initiative to improve statistics on the commodity trading sector as well as the factual foundations and analytical framework of the commodities sector as a whole (Federal Council 2018: 39–40).

The second reason is commercial confidentiality, where those interested in improving transparency have to take into account the legitimate business interests of traders who, more than producing companies, depend on their superior knowledge and understanding of the market to make a profit. It is worth pointing out that commercially valuable information has a short shelf life. If information is made available with a slight delay, little commercial damage is done while its value to the public is only minimally affected.

The third reason is that some decision makers may be incapable of preventing or may benefit from illegal transactions. This is what justifies efforts to improve transparency. Public information about transactions reduces the scope for illicit arrangements.

3 Does lack of transparency matter?

Since improving transparency carries a cost to the parties involved, it is reasonable to ask whether the losses from a lack of transparency are larger than the cost of improving transparency. In the following, an attempt is first made to assess whether the extractive sector should be expected to be more exposed to corruption than other sectors. Then, the importance of two much debated forms of illicit arrangements, transfer mispricing and trade misinvoicing, is critically reviewed. Finally, the role of finance in extractive commodities trade and the associated challenges are briefly discussed. A full review of potential losses due to lack of transparency should also include environmental losses as well as social ones of the kind that responsible sourcing are intended to prevent. This subject, however, is too complex to be included here.

3.1 Extractives and other sectors

The lack of transparency in itself may give rise to allocative inefficiencies as a result of economic actors acting on flawed information or because they have unequal access to relevant knowledge. When transparency in commodities trade was first a subject for economic policy debate, in the 1970s and 1980s, it was widely seen in terms of more and better statistical information about international trade flows and prices. Transparency assumed importance as an alternative to more ambitious policies that aimed to reduce commodity price fluctuations. Improved transparency of commodity markets was proposed as an alternative to changing the way the markets functioned in favour of commodity exporting developing countries. It is easy to find support in economic theory for the argument that, other things being equal, improved transparency would lead to more efficient markets and better resource allocation, and this argument is of course still relevant.

However, the greater problem, and the one that is usually on people's mind when they talk about the losses arising from a lack of transparency, has to do with corruption, tax evasion, and illicit capital flows. Transparency is thus seen as an antidote to corruption and illicit financial flows, which, it is assumed, would be eliminated if transparency were closer to perfect.

The discussion of these problems associated with transparency unfortunately suffers from a great deal of uncertainty. We do not really know how large the losses from corruption are.

While perfect transparency could, in principle, lead to a different outcome compared with the present, we could probably never achieve it. So the question becomes one of how important it is to achieve improvements in transparency and whether the value of these improvements would be larger than the cost of achieving them. First, we need to acquire an understanding of the magnitude of these distributive impacts.

Illicit capital transfers may be linked to bribery or tax evasion, but may also be tied to other types of illicit activities such as arms or drugs trade, where the corruption and tax evasion are consequences rather than primary causes of the underlying activity and capital movements. In these cases, trade in extractive commodities becomes a practical way of moving large sums of money without the authorities noticing.

According to the OECD, companies from the extractive sector accounted for the highest share (19 per cent) of foreign bribery cases completed between 1999 and 2014, followed by construction (15 per cent), transportation and storage (15 per cent), information and communication (10 per cent), and manufacturing (8 per cent) (OECD 2014: 21). This is not too surprising. Extractive industry projects depend on government permits from the beginning, when they need to acquire mineral exploration licences or bid in an auction for oil or gas exploration blocks, through project lives, when they need to obtain certifications that they are observing environmental and safety regulations, and to the end, when they have to obtain government approval of closure and restoration plans. Procedures for all of these permits and government approvals sometimes leave ample scope for corruption, which is why transparent government procedures are important in reducing its incidence. Box 2 describes a few high visibility examples of corruption connected to the extractive industries.

Box 2: A few high visibility cases of corruption connected to the extractive industries

Democratic Republic of the Congo

According to an investigation by the Carter Center (2017), the state-owned mining company Gécamines acted as a gatekeeper to Congo's copper and cobalt assets. As a result, Gécamines received revenues in the form of royalties, bonuses, rents, and other contractual fees of about 262 million USD per year during the period 2009–14. Of these revenues, some 750 million USD cannot be found. The NGO Global Witness (2017) has carried out its own investigation, based mainly on Congo's EITI reports. According to their analysis, Gécamines made questionable payments while failing to pay dividends to the government and reporting barely more than 20 million USD in tax per year. Furthermore, each year Congo's national tax agencies keep back a portion of mining revenues, rather than transfer them to the treasury, and the final destination of these funds is unclear. From 2013 to 2015, it is estimated that 1.3 billion USD in mining revenues never reached the national treasury. This sum includes company payments to other government bodies and a provincial tax agency that has since been dissolved. Gécamines has denied the allegations by both the Carter Center and Global Witness (Financial Times 2018).

Republic of Congo

In the early 2000s, 'Société Nationale des Pétroles du Congo (SNPC) regularly sold portions of the state's oil to three intermediary companies: Sphynx UK, Sphynx Bermuda, and the local Africa Oil & Gas Corporation (AOGC). It is alleged that SNPC channeled crude through Sphynx and AOGC in part to conceal state earnings from creditors, to whom Congo owed over $8bn by 2005' (Sayne and Gillies 2016: 4). Investigations by Global Witness (2005) and information disclosed through court actions taken by private creditors seeking to seize Congo's assets in the United Kingdom, United States, and France have revealed systemic and troubling discrepancies in the oil accounts. In addition, it has been found that a senior SNPC official owned a large, concealed stake in all three companies, and that some of the companies made high interest loans to SNPC in exchange for discounted oil. The government also granted AOGC interest in at least five Congolese oil fields at undisclosed prices. Finally, Sphynx Bermuda reportedly paid companies owned by a family member of the president for unknown 'consulting services' (Sayne and Gillies 2016: 5). All of the companies have denied the allegations.

Indonesia

In 2013, Rudi Rubiandini, the head of Indonesia's Special Task Force for Upstream Oil and Special Business Activities (SKK Migas), 'approved the award of rights to the company Fossus Energy to buy portions of the government's share of production from three oil fields. Indonesian anti-corruption police arrested him shortly thereafter, on allegations that Fossus Energy paid him an approximate $1.1 million bribe in exchange for the rights. He reportedly received the money via a middleman (his golf trainer) and the manager of Kernel Oil, a sister company of Fossus Energy' (Sayne and Gillies 2016: 3). They were then both sentenced to prison (Indonesia Investments 2014).

Nigeria

In 2014, the governor of Nigeria's central bank announced that 20 billion USD in Nigerian National Petroleum Corporation (NNPC) oil sale revenues had gone missing. For instance, NNPC channelled oil worth 35 billion USD to swap deals in exchange for petrol and kerosene between 2010 and 2014. In 2015, nearly 20 per cent of the oil sold by NNPC was traded for petroleum products via poorly structured deals with two companies. The terms were very profitable for the oil trading companies and resulted in a major loss of public funds. Some of the contract winners lacked fundamental trading capabilities, including the ability to market their own crude and source fuel directly from refiners (Sayne et al. 2015).

Source: author's compilation based on various sources cited for each case.

Tax evasion takes place in a variety of ways, including under-reporting of income and over-reporting of expenditures. Much of this is local: not paying payroll taxes or avoiding value-added tax on domestic purchases, but international transactions may offer greater scope for those who are determined to reduce their tax liabilities by any means. However, there are reasons to believe that international transactions offer less scope for tax evasion by the extractive industry than for other sectors, for the following reasons:

- The scope for transfer of profits through inflated payments for intellectual property rights or advice from the mother company is limited in extractive industries. Extractive companies tend to own few patented technologies. Innovation in the mining sector shares the characteristics of 'supplier-dominated innovation', where technological changes are driven by equipment suppliers rather than the mining companies themselves (Calzada Olvera and Iizuka 2020). As noted by the Senate of Australia: 'Companies with a lot of intellectual property are the ones who have the biggest opportunity to shift profits. This is not just the big tech companies, but most of our companies. BHP has intellectual property in the form of the way it mines and the technology it uses. But, compared to its value, that is a relatively small part of its value. For Google, Apple et cetera, their intellectual property is a much larger part of their value. They are the companies where the profit shifting is the greatest.' (Commonwealth of Australia 2015: 22).

- The scope for shifting profits through mispricing of outputs, either between related companies or not, should be more limited than in most other businesses, given that public reference prices of energy and mineral products are usually well known and easily accessible. With regard to mispricing of inputs, on the other hand, there seems to be no particular reason why the extractive industry should differ from other industries.

The point about mispricing may seem surprising to those who have followed the public debate about extractive commodities trading, since such practices are usually identified as one of the most important ways of profit shifting in the extractive industry and as one that accounts for very large transfers of wealth. As will be seen later in this section, some of the impression arises from flawed estimates of the extent of mispricing. Moreover, the sector tends to receive a lot of attention from tax authorities—because it is easier and pays better for these authorities to target a few large tax payers rather than many small ones—as well as from politicians and media, who find it easy to exploit the questionable reputation of the industry.

On the other hand, the extractive industry may have more opportunities for tax evasion through mispricing than some other industries, since it is very capital intensive and more export oriented than most other industries.

Mispricing takes one of two basic forms: *transfer mispricing*, when a price lower or higher than the normal market price is applied between related companies, and *misinvoicing*, where the transaction takes place between unrelated companies, but where the price for the seller and buyer are different, with an intermediary appropriating the difference (the intermediary may, of course, share the profits with a producing or consuming company or with government officials).

3.2 Transfer mispricing

Transfer mispricing is usually thought of as occurring with exports by one company to a related company being priced at an artificially low price so that the company does not have to pay taxes on a high income, or with imports being priced at an inflated price.[10]

There are few clearly documented examples of transfer mispricing. Readhead (2016) cites some examples, particularly in individual case studies underlying her main study. From time to time, the specialized press reports on disputes between governments and extractive companies, with many of those disputes concerning transfer mispricing, generally of outputs, but sometimes of equipment and other inputs. Since these disputes almost always end with a negotiated agreement between the taxpayer and the authorities, the details of which are rarely made public, it is difficult to be certain about the magnitude of the phenomenon. Where numbers have been made public, the sums agreed upon usually differ dramatically from the initial claims, which should maybe be seen as a result of the government staking out a negotiating position at the beginning of the process rather than making a serious claim of accuracy (see Box 3 for an example). There are, however, as Box 4 shows, some examples of government-company disputes where the amounts involved have been substantial and the government has won its case.

[10] For an extensive and detailed discussion of transfer pricing with particular reference to mining and to Africa, see Guj et al. (2017).

Box 3: Government estimates of transfer mispricing—the case of Acacia Mining in Tanzania

Acacia Mining is a subsidiary of Barrick Gold, operating gold mines in Tanzania. In 2017, a report by a government commission claimed that Acacia had grossly understated its exports of copper–gold concentrate during the years 2000–17. It also claimed that it had failed to report the contents of ten other minerals in the concentrate. The value of the undeclared elements (beryllium, iridium, iron, lithium, nickel, rhodium, sulphur, tantalum, ytterbium, zinc) was stated to be 58.8 trillion Tanzanian shillings (25 billion USD). As a result, the government claimed that it had not been able to collect taxes to an amount of 108 trillion Tanzanian shillings (46 billion USD) (The Citizen 2017). The company pointed out that if the committee's published findings were based on accurate data, two of its mines in Tanzania would be the world's two largest gold producers (Creamer Media 2017a). It must also be said that the calculation of the value of the other 'undeclared' elements is unusual, to say the least. Most of these elements are present in mineral concentrates in such minute amounts that it is out of the question to extract them profitably. For others, such as iron and sulphur, they are present in larger amounts but again, the cost of extracting them from the concentrate exceeds their commercial value. No normal commercial sales contract for concentrates anywhere in the world would include payment for these elements (except in some very unusual cases, where a smelter buying the concentrate could use the sulphur to produce sulphuric acid to be used in copper leaching operations, which would however only be commercially possible if there were a copper leaching operation with no other source of sulphuric acid very close to the smelter).

Acting on the report, the government charged the company with an assessed bill of 190 billion USD. The bill was split into 40 billion USD in unpaid backdated revised taxes and an additional 150 billion USD in penalties and interest (Miyandazi 2019: 12). A deal was eventually reached between the government and Barrick Gold. Under this deal, economic benefits from the three existing mines will be distributed on a 50:50 basis between the new operating company and the government. The government's share of economic benefits will be delivered in the form of royalties, taxes, and a 16 per cent free-carry interest in the Tanzanian operations. One can note that this 50:50 split is pretty much in line with average effective tax rates on mining internationally. Acacia Mining is also expected to make a one-off payment of 300 million USD to the government to resolve outstanding tax claims (Creamer Media 2017b). While the payment may seem large, it is only a minuscule portion of what the government initially demanded. Barrick Gold's willingness to conclude the deal should probably also be seen against the background that the government had introduced a ban on exports of concentrates earlier the same year and that Barrick was losing 1 million USD per day as a result (Creamer Media 2017c). Finally, three of Acacia's employees, who had been jailed in October 2018, accused of tax evasion, were released in June 2020 after having agreed to a plea bargaining deal, under which they would each pay a fine of 1.5 million Tanzanian shillings (649.35 USD) (Creamer Media 2020).

Source: author's compilation based on The Citizen (2017) and various sources cited in the text box.

Box 4: Transfer pricing—iron ore trading hubs in Singapore

BHP and Rio Tinto both mine iron ore in Western Australia. The ore is exported, mainly to China. In the early 2000s, both companies set up trading hubs in Singapore. These hubs carry out a range of functions such as marketing, shipping, and insurance. They also handle other commodities such as aluminium and coal.

From 2006 to 2014, BHP sold 210 billion USD worth of resources to its Singapore subsidiary. That was then sold on to customers for 235 billion USD. After expenses, the Singapore marketing hub was left with a 5.7 billion USD profit over those eight years, on which it paid minimal taxes to Singapore.

The reason why BHP and Rio Tinto got an Australian tax advantage from the Singapore hubs was because of their dual listing on the London and Australian stock exchanges. BHP's Singapore hub was owned 58 per cent by BHP Australia, and 42 per cent by BHP UK. Under Australian laws, profits on the 58 per cent were taxed in Australia, resulting in BHP paying 945 million AUD in Australian tax. Profits on the 42 per cent of the Singapore marketing hub that were owned by BHP UK on the other hand, were not taxed in Australia (TP News 2017).

After an inquiry into both BHP and Rio Tinto was opened by the Australian Taxation Office (ATO), BHP agreed in 2018 to pay 529 million AUD in additional taxes to cover income from this period. The company also agreed to increase its ownership in the parent of BHP's Singapore marketing business from 58 per cent to 100 per cent from July 2019 in order to clarify the operation's tax status. In 2019, BHP also agreed to pay the state of Western Australia 250 million AUD to end a dispute over royalties paid on iron ore shipments, also sold through its Singapore marketing hub (Paul 2020).

It should be noted that the ATO did not claim that BHP and Rio Tinto had evaded taxes through transfer mispricing (the Western Australian government made that claim, however; see Creamer Media 2019), but that the subsidiaries in Singapore should be considered 'associated entities' and that therefore their entire profits should be included in group profits. One can speculate that the ATO could have questioned the transfer prices used between the two BHP entities, but it might have been more difficult to prove a case of tax avoidance that way than to focus on the associated entities issue. The case illustrates both the difficulties facing even a very sophisticated tax authority—and it is hard to find a more experienced tax agency than ATO when it comes to mining taxation—and the relatively modest returns to the government on such cases, compared with the overall sums involved.

Source: author's compilations based on TP News (2017) and other sources cited in the text box.

In conclusion, it is not evident that transfer mispricing is a major cause of revenue losses to governments, which is maybe not too surprising, since a reasonably competent tax authority should be able to identify significant deviations from arm's length prices relatively easily, at least as far as pricing of outputs is concerned. While pricing formulas may be complicated and contain various quality discounts and premiums, information about prices is today relatively easy to obtain, albeit at a cost (see 'The cost of public information', Section 2.3). However, the cost is negligible compared with the additional government revenues that may result from a more qualified assessment of transfer prices used by companies. In the author's own experience, the kind of transfer price that poses most challenges to tax authorities concerns payments between related companies for services such as marketing and 'management'. The sums that can realistically be claimed in deduction for such expenses are limited, however.

3.3 Misinvoicing: mirror studies

Published estimates of misinvoicing do not appear to directly support the claim that it is of great importance in the extractive industry. Studies of misinvoicing commonly rely on a mirror analysis of trade data, where the value of reported exports of a particular good from country A to country B is compared with the value of reported imports of the same good to country B from country A. If the reported value of the exports is significantly lower than the value of imports, then under-invoicing of exports or over-invoicing of imports may have taken place. It is important to note that this type of analysis does not capture transfer mispricing, where the reported value of exports and imports would be the same, although different from the arm's length market value. It is possible that the most important method of misinvoicing actually involves a variation on the transfer mispricing theme, with a company with the same owners as the exporting company, usually located in a low tax jurisdiction, buying the commodity and then selling it on at a higher price to the importer.

Estimates based on mirror analyses are subject to a number of discrepancies, some of which are particularly relevant in the case of extractive commodities trade. They include the following:

- Unintentional errors in the classification, volume, or value of goods, with different entries being recorded in the exporting and importing country. These errors can correspond to a significant share of total reported trade (Tercero and Soulier 2016).

- Intentional discrepancies in goods classification, for instance, to reduce export or import duties. While this is a form of tax evasion, it does not necessarily represent an illicit transfer of capital since the trade will be reported, although under the wrong tariff line.
- Differences between reported export destinations and actual ones because the final destination of the good is not known when the customs declaration is made or because goods are sent to bonded warehouses or other transit points such as LME warehouses. The country where the warehouse is located may be recorded as destination but without any imports in this country being reported (in the case of goods in transit) or only at a later time (when goods have been held in warehouses for some time). It is a common practice in China to hold commodities in bonded warehouses for a period of time. Warehouses certified by the LME, of which there are about 600 all over the world, may hold metals for a very long time.
- Price changes while goods are in transit, for instance, because the seller has hedged the sale by buying futures or options that allow the seller to lock in a certain price, which is declared at the point of export, and the physical transaction is settled at the spot price at the time of delivery.[11]
- Discrepancies between estimated and actual freight costs: mirror trade analyses cannot record or estimate freight costs for all goods. For that reason, they employ an adjustment, usually 10 per cent, across the board, since exports are reported as the value free on board (or fob), while imports are reported as cif (or cost, insurance, and freight). For many extractive commodities such as crude oil, coal, and iron ore, the portion of the import price accounted for by freight is actually substantially higher, so that the mirror analysis will mistakenly identify trades as under-invoicing of exports.

The best known of the mirror studies are the ones produced by Global Financial Integrity (GFI), a non-profit organization. The estimates show impressive amounts. According to the latest report, the sum of the 'value gaps' identified in trade between 135 developing countries and 36 advanced economies in 2017, the most recent year for which comprehensive data are available, was 817.6 billion USD (GFI 2020: 17). This corresponds to 10.4 per cent of developing countries' total exports that year according to UNCTADstat (undated). It is of interest to note the results of a ranking of commodity groups at the two-digit level of the Harmonized System code according to the relative importance of value gaps. The only extractive commodity group included is salt, stone, and cement in tenth place, where value gaps correspond to 24 per cent of total exports of the 135 developing countries included in the study over the period 2008–17.[12] In absolute terms, precious stones and metals are in fifth place, with an average value gap of 71.8 billion USD.[13]

GFI uses a number of measures to ensure that the type of errors just described do not affect the results and it considers its figures reliable. However, the results remain less than convincing, for several reasons.

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[11] It may be relevant to note that many developing country tax authorities struggle with how to tax transactions on future exchanges because of a lack of appropriate regulations.

[12] In view of the commodities concerned, this particular result is probably due to an underestimation of transport costs.

[13] As will be discussed shortly, this result is almost certainly at least partly due to differences in the classification of South African gold exports between South Africa and importing countries and to the refining of gold, silver, and platinum from other countries in South Africa, with importing countries reporting the imports as coming from South Africa and South Africa not considering them as exports.

First, GFI eliminates 'orphan' or lost records; that is, where trade between two countries is recorded in only one of them (GFI 2020: 11–12). However, this does not take into account the case where trade is reported to be greater than zero in both countries, but very different for one reason or other.

Second, while some errors and intentional classification differences might be captured by the process just described, others would not. For instance, according to GFI (2020), Togo is among the countries with the largest value gaps, with such gaps corresponding to 30.2 per cent of total exports on average over the 2008–17 period. However, as discussed earlier, Togo reports its (re)exports of gold at an artificially low price (see Box 1). The difference between Togo's gold exports as reported in United Nations Comtrade (undated) (which reproduces the raw data as received from national customs and statistics bodies by Comtrade) and as reported in UNCTADstat (undated) (where the data are checked and obviously erroneous data are corrected and marked as estimates) corresponded to 11.7 per cent of Togo's total exports on average, and between 15 and 19 per cent since 2014, a substantial portion of the value gap.[14] Similar sources of errors are likely to exist for other commodities and for other countries.

Third, as already noted, transit trades are difficult to capture in mirror analyses. GFI takes transit trades via Hong Kong into account. However, important volumes of trade, particularly extractive commodities, transit via other ports such as Dubai, Rotterdam, or Singapore. Moreover, GFI does not take into account exports that end up, more or less temporarily, in bonded warehouses and that therefore have not been registered by customs authorities, or, in the case of crude oil, stored in tankers. Neither does it take into account the particular case of merchanting traders in Switzerland. Under the special status accorded to these enterprises by several Swiss cantons, they pay relatively low taxes. According to the Swiss authorities, 'Merchanting is defined as a transaction in which a company in Switzerland purchases goods from a supplier abroad and then sells those goods on to a buyer abroad. As a rule, the goods do not cross the border into Swiss territory and are, in consequence, not subject to Swiss customs duties' (Federal Department of Foreign Affairs 2013: 8, Box 1). When commodities are sold to such a trader, the export destination is sometimes reported as Switzerland, although the final destination may not be known. Since close to half of world trade in crude oil and more than half of world trade of metals is handled by these companies, such 'misclassifications' can have important consequences.

Finally, as Forstater (2016: 9) notes:

> One further clue that ordinary merchanting and transit trade involving international hubs may be significant in generating trade misinvoicing estimates can be seen from the overall pattern of goods trade reported globally. While there are significant mismatches between exports and imports reported by pairs of countries, it is striking that globally, imports and exports track each other closely, falling within the 10% margin conventionally allowed for the cost of transport and insurance overall. Why would billions of dollars of over- and underinvoicing cancel each other out so neatly each year, so as to appear invisible? It is hard to imagine how this would happen if the data mismatches mainly reflected separate, hidden frauds carried out by disparate entities to move money across borders. … However, this pattern of over and under invoicing netting out neatly is consistent

[14] About 30 per cent of Togo's other exports are accounted for by clinker (for cement production), phosphates, and petroleum products (re-exports) (BCEAO 2018). Freight costs for all these products are likely to be underestimated by GFI's methodology, which would explain a good part of the remaining gap.

with mismatches that would be expected from merchanting and transit trade along commodity supply chains.

A couple of mirror analyses by international organizations, one by the African Union and the United Nations Economic Commission for Africa (2015) and the other by UNCTAD (2016a), have attracted considerable attention. In both cases, misinvoicing of trade in extractive commodities was identified as being a very important method to enable illicit capital flows and surprisingly large numbers were presented. For instance, it was claimed in the UNCTAD study that South African gold production to a value of 113.6 billion USD could have been smuggled out of the country between 2000 and 2014 (UNCTAD 2016a: 28). However, both studies contained gross errors which almost completely invalidated the results. Among other errors, the studies missed that the trade classification of South African gold exports had changed; that a large portion of Zambian copper exports was handled by Swiss merchanting traders; and that substantial portions of African countries' gold, platinum, and silver production was refined in South Africa. Regrettably, both studies are still often quoted.[15]

It is important to note that the estimates of trade misinvoicing reported in studies do not represent actual losses to the economies concerned. The losses, in the form of forgone tariffs or taxes, are smaller than the gross value of the flows, although in some cases they could be large relative to the size of the economy concerned. In countries with strict capital controls, illicit flows can be associated with evading capital controls. As argued by Forstater (2016: 4), 'this can be motivated by concern about financial instability or predatory government or by a desire to access international investment and consumption. This should not be conflated with theft of public money or loss of investment funds. However, it might be argued that it reduces the stake of elites in ensuring property rights and development at home.' Other effects, such as the impact of capital flows on the exchange rate, should of course also be taken into account and may be of considerable importance at certain points in time.

3.4 The role of financing in trade

As already mentioned, trading arrangements have become an increasingly important source of finance for extractive industry operations. From the point of view of the governments of the countries where the operations are located, such finance can be beneficial but it can also create risks.

Smaller-scale arrangements can build on the fact that international trading companies are usually considered to be better credit risks than, for instance, small mining companies or artisanal miners in developing countries. The trader can then lend from their own funds and add a risk premium to any finance that they provide to the seller while still charging interest rates that are very competitive to those the seller could obtain from domestic lenders, thus enabling smaller-scale miners to survive.

Larger-scale deals often involve the lender being paid in the commodity being traded. Such transactions may occur, for instance, between a trader and a National Oil Company (NOC), where the trader finances the NOC's part of the investment in an oilfield and is paid out of the government's part of the production, this payment constituting part or all of the oil that the trader

[15] For detailed discussions of the errors in the two reports, see Eunomix (2017) and Östensson (2018). UNCTAD published a second version of its study a few months later, which, while making some minor corrections of some of the errors, still claimed that the conclusions were valid (UNCTAD 2016b).

sells on the NOC's behalf. This type of finance may expose governments to different types of risks, the most important being the following:

- The opaqueness and complexity of the financing arrangements could facilitate the diversion of government revenues.
- The complexity of the arrangements is demanding on governments' capacity to evaluate financial arrangements and to decide whether the deal being offered is an attractive one.
- Outside observers such as other lenders, including international financial institutions, may have difficulties evaluating the government's financial exposure accurately.

Information about these transactions is rarely easily available although there is an ongoing discussion among EITI member countries about ways to improve transparency, particularly with respect to transactions involving NOCs, where the EITI standard has recently been tightened (see Section 2.2).

Other increasingly common ways that trade and financing interact in the extractive industries is through streaming[16] and royalty[17] arrangements. Streaming and royalty deals are usually not considered part of a mineral and metal trading company's normal range of activities but are instead handled by specialized companies.

3.5 Summary conclusions

The extractive industries are often singled out as a particular focus for corruption, illicit capital flows, and tax evasion. Section 3 has attempted to nuance this image, building on the conclusion in the preceding section that these industries may not be particularly prone to corruption or tax evasion compared with other industries of similar size. Very little is actually known about the size of the losses to developing countries from various types of financial crimes in connection with extractives trade. While a few countries have clearly experienced massive losses due to corruption linked to extractive commodities trade, it deserves to be emphasized that the case for large losses arising from two phenomena commonly blamed, transfer mispricing and trade misinvoicing, is clearly less than convincing. Estimates of trade misinvoicing, in particular, suffer from major methodological deficiencies that invalidate their conclusions. As for transfer mispricing, the magnitude of the phenomenon appears to have been exaggerated since the few cases where at least some of the details have been made public have led to modest revenue losses compared with the magnitude of the operations. For instance, the Australian tax authorities must be considered to be among the world's most qualified when it comes to matters of extractive industries taxation. But as discussed in Box 4, in the case of BHP in Australia, the ATO was eventually able to obtain a payment by BHP that corresponded to only about a tenth of a per cent of its sales during the relevant period. Other, less sophisticated tax authorities may miss larger opportunities. However, in most cases the situation could be dramatically improved with only a modest investment in training and recruitment of qualified assessors, along with appropriate simple changes in tax laws. This of course assumes that the political will to carry out these changes exists, which brings us to

[16] 'In a streaming transaction, the streaming company pays an upfront payment, usually in cash, to the mining company in order to secure the delivery of a fixed percentage of future production of a specific metal(s) and then makes regular payments for each unit of metal or metal credits delivered, as stipulated in the contract. The upfront payment is seen as an advanced payment for future delivery of specific metals and is structured as a deposit, which is reduced as the metal is delivered. If structured correctly, the deposit may be considered to be deferred revenue rather than debt' (McKenzie 2019).

[17] In a royalty deal, the provider of finance is given the right to receive payments based on revenues or profits from a mining operation venture, but no physical commodity.

the main conclusion. There are limits to the amount of money that companies can divert through illicit means involving extractive commodities trade. From the evidence, it appears that when large sums of money go missing in connection with such trade, they do so as a result of close cooperation between government officials and extractive companies. This has clear implications for transparency: while companies, be they trading or producing, cannot be expected to reveal full details of their operations to the public, governments do not really have any good excuse to be less than fully open about the transactions undertaken on their behalf. Moreover, while measures to promote transparency in private companies' dealings may not always be very effective, investment in improving the capacity of tax authorities are likely to be considerably more so.

The same reasoning can be applied to the role of finance in extractive commodities trade. Lending by trading companies to mining or oil companies may be of concern from the point of view of fair competition, with mining or oil companies running the risk of becoming dependent on a single customer and being locked into an inferior bargaining position. However, with financing alternatives for this industry becoming increasingly constrained, the disadvantage may be offset by access to a relatively cheap source of capital, particularly for operators with little access to credit, such as artisanal miners. The situation is slightly more complicated when the producing company is owned by the state, partly because financing deals offer opportunities for illicit arrangements, and partly because the secrecy that often surrounds the deals may undermine the government's credibility with donors and investors. Here, transparency would appear to be a part of the solution.

4 What are the benefits and costs of greater transparency?

In the following, the impacts of existing transparency initiatives are reviewed. The discussion includes initiatives aiming directly to improve transparency in commodity trading, but also initiatives that are broader in scope, but which include measures designed to improve transparency in commodity trade.

When trying to assess the effects of transparency initiatives, three questions can be posed:

- Is transparency leading to changes in behaviour?
- Are those changes economically important?
- Are the costs of transparency equitably shared?

The answers to the three questions taken together could provide the outline of a theory of change; that is, a statement about how the initiatives hope to change the economic and social environment in the desired direction, in particular towards improved fiscal management. These questions will be addressed in the context of the following review.

A large number of initiatives that either aim to increase transparency directly or rely on increased transparency to produce other results have appeared over the past several years. The expectation has been that these initiatives would gradually result in greater transparency and, as a result of this improvement in transparency, better governance. It is not possible here to make a comprehensive evaluation of their success or otherwise. However, an evaluation should start by acknowledging that the objectives of the various schemes are different, although it may not be possible to make a clear delineation between schemes that focus exclusively on transparency and those that use transparency as a means to an end. The Kimberley process, for instance, utilizes a transparency obligation on its participants in order to keep the proceeds of diamond sales out of the hands of armed groups. Transparency is the means to an end, but not an end in itself. Similarly, the ultimate objective of the EITI is to reduce corruption. The success of these schemes should therefore not be judged solely on the basis of whether the objectives in terms of transparency have been achieved, but also be judged on the degree to which this transparency has helped reduce the access of armed groups to diamonds and reduced corruption.

4.1 EITI and other transparency schemes

The EITI is both the first and the most prominent of transparency schemes. It has been in operation since 2006, after the idea was introduced by Tony Blair in a speech intended for the World Summit on Sustainable Development in Johannesburg in September 2002. It was preceded by advocacy work carried out, in particular, by the NGO Publish What You Pay and by a debate among academics and development agencies about the role of transparency and accountability in government in promoting development.

One of the limitations of the EITI is that it has so far not been able to attract the participation of many of the most important countries in the extractive industries: Angola, Australia, Botswana, Brazil, Canada, Chile, China, India, Russia, Saudi Arabia, South Africa, and the United States.[18] Maybe surprisingly, the group of non-members includes some countries that usually support transparency efforts. The fact that so many of the most important countries are missing may have undermined the authority of the EITI, but its credibility is high. It should be noted that several countries, including Canada (Extractive Sector Transparency Measures Act) and the EU (European Union Directive 2013/50), have introduced legislation that obliges companies based in these countries to report information very similar to that reported to the EITI, thereby complementing the EITI information for countries that are not EITI members. This means that many companies provide the same kind of information on their activities in non-EITI countries as they do in EITI countries. There have been few complaints about companies reporting and they appear to have been following the rules. This includes, somewhat to the surprise of some observers, Chinese companies (EITI 2016).

While corruption and abusive practices in the area of trade could to some extent be expected to be identified through the EITI process and while the EITI standard might be expected to have some deterrent effect on such practices, it is nevertheless true that trade in extractive industry commodities is not a focus of the EITI and that more could be done to promote transparency in trade through the EITI process. As already described (see 'Commodity trading companies and transparency', Section 2.2), the 2019 EITI standard represents significant progress in this respect.

Some basis for assessing the success of the EITI exists in the form of an evaluation that was carried out in 2011 (Scanteam 2011). The evaluation found that the EITI had been successful in its core mission. At the country level, it had proved possible to build and strengthen consensus around greater democratic insight and control over resources. A large and growing number of countries had become members and the administrative and financial systems of these countries had become more transparent. However, while transparency had improved, accountability did not appear to have changed much, which may be interpreted to mean that it had become easier than before to identify bad practices, but that it was just as difficult as before to change these practices.

Evaluation of EITI's performance has been the subject of a number of other, later studies. These studies tend to confirm that transparency has improved as a result of the EITI, but are more divided on the question of whether behaviour and accountability has changed significantly.

[18] The United States was admitted as an EITI candidate country on 19 March 2014. On 2 November 2017, the United States government decided to withdraw from the EITI.

Öge (2016a) reports that affiliation with the EITI immediately improved overall aggregate data disclosure in member countries. According to Aas Rustad et al. (2017), the EITI has been most successful in reaching its institutional goals, particularly by establishing transparency as a global norm. The EITI has also succeeded in establishing generally accepted procedures and templates for transparency, including on auditing, reporting, and civil society involvement.

In spite of the improvements in reporting, the effect on corruption is less evident. According to Öge (2016a), perceptions of corruption did not change in EITI member countries. Van Alstine (2017) reports that EITI member states do not perform better in corruption rankings than non-member states. Corrigan (2017) finds that the EITI has had positive effects but that these effects have not resulted in significant improvements in control of corruption. On the other hand, Papyrakis et al. (2017) find that mineral-rich countries tend to experience an increase in corruption, but that this effect is offset by commitment to the EITI, with EITI member countries experiencing a slight improvement in transparency. Villar and Papyrakis (2017) find that EITI reduced corruption in Zambia, especially during the earlier stages of implementation.

Several authors have found other positive effects of EITI membership. Öge (2016b) shows that EITI-implementing countries experience higher levels of incoming foreign direct investment immediately after becoming members. Malden (2017) uses reported budgets for grassroots corporate mineral exploration expenditure as a proxy for a country's mineral investment climate, with the results indicating that a country's ability to attract mining investment improves as a result of EITI membership. These results may point towards EITI membership having become—at least in the minds of investors—an indicator of stability and good governance, with EITI member governments projecting an image of themselves as reformers and supporters of open markets. The increased investor interest may lead to increased government revenue and thereby also help countries to achieve broader development goals.

With respect to broader measures of development and governance, Corrigan (2014) finds that EITI membership has positive effects on GDP per capita, the capacity of the government to formulate and implement sound policies, and the rule of law. On the other hand, the EITI was found to have little effect on the level of democracy, political stability, and corruption. Sovacool et al. (2016) analyse how the first 16 countries that attained EITI compliance status as of 2012 performed on a variety of different governance and economic development metrics, including accountability, political stability, government effectiveness, regulatory quality, rule of law, corruption, foreign direct investment, and growth in per capita GDP. They find that EITI countries do not perform better during EITI compliance than before EITI compliance, and that in most metrics they do not outperform other countries.

In conclusion, the evidence seems to show that transparency has increased and that this may have had some positive effect on corruption and accountability, although the evidence is less clear on this point. Several factors complicate the drawing of any conclusions. First, some countries have not been members of the EITI long enough for the reporting requirements to make a difference. Second, comparisons between members and non-members of the EITI are complicated by the fact that companies are likely to have changed their practices not just in EITI member countries but also elsewhere, particularly since several important jurisdictions now require companies to report following more or less an EITI template.

Finally, although the evidence is not very strong, there are indications that industry norms are changing and that this will influence the relationship between companies and government even in countries where political and economic elites do not welcome transparency.

4.2 Traceability, conflict minerals schemes, and responsible sourcing

The basis for almost all responsible sourcing schemes is the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD 2016). It builds on experiences of the Kimberley process and the discussions leading up to the Dodd–Frank legislation and was adopted in 2011. Its main objective is to ensure that companies do not contribute to human rights violations and conflict through their mineral purchases. Originally, the OECD guidance specified tin, tantalum, tungsten, and gold as conflict minerals, just as the Dodd–Frank legislation, but later editions have widened the scope to all minerals sourced from conflict-affected and high-risk areas.

Government-supported initiatives

The Kimberley process is a multilateral trade regime established in 2003 with the goal of preventing the flow of conflict diamonds. It is a coalition of governments, civil society organizations, and the diamond industry, including producing, cutting and polishing, and trading companies, to eliminate the trade in 'rough diamonds used by rebel movements or their allies to finance conflict aimed at undermining legitimate governments' (United Nations Security Council 2003). Under the Kimberley Process Certification Scheme (KPCS), states certify shipments of rough diamonds as 'conflict-free'. Today, members of the Kimberley process account for approximately 99.8 per cent of the global production of rough diamonds. Under the terms of the KPCS participants must:

- satisfy 'minimum requirements' and establish national legislation, institutions, and import/export controls;
- commit to transparent practices and to the exchange of critical statistical data;
- trade only with fellow members who also satisfy the fundamentals of the agreement; and
- certify shipments as conflict-free and provide the supporting certification.

While the Kimberley process is widely regarded as a success and is credited with having contributed to ending civil wars in West Africa, it is also criticized for being too narrow in scope and ambitions. The NGO Global Witness (2013) criticizes the process for its narrow focus on conflict diamonds, lack of addressing other human rights risks, weak enforcement, and the exclusive focus on rough stones. Once stones are cut and polished, they are no longer covered by the scheme.

Along with the industry association World Diamond Council, the civil society organizations that participate in the Kimberley process as observers supported a proposal that would significantly expand the scope of the process. More specifically, the proposal would expand the definition to include 'rough diamonds used by public security forces or private (including criminal or mercenary) armed groups to acquire wealth through the illegal control, bribery, taxation, extortion or dispossession of people' (Creamer Media 2018). It would also include rough diamonds 'acquired through systematic and widespread violence, forced labour, the worst forms of child labour, or through violations of international humanitarian law' (Creamer Media 2018). The proposal was not supported by all participating governments and therefore did not pass.

The term 'conflict minerals' first started being used in connection with civil wars in the DRC, where armed groups preyed on artisanal miners, levying 'taxes' or stealing their products and using the proceeds to buy arms. Given the success of the Kimberley process, it was maybe natural for governments to believe that a similar process would work in the DRC. The United States was the first country to introduce legislation with this aim. Section 1502 of the Dodd–Frank Wall Street Reform and Consumer Protection Act (usually referred to as Dodd–Frank and signed into law on

21 July 2010) requires companies reporting to the SEC to report their use of conflict minerals; that is, columbite–tantalite (coltan), cassiterite (tin ore), gold, wolframite (tungsten), and their derivatives that originate in the DRC or an adjoining country. If the conflict mineral did originate from the DRC or an adjoining country, then SEC reporting companies have to submit to the SEC a report that includes:

- a description of the measures taken by the reporting company to exercise due diligence on the source and chain of custody of the conflict minerals;
- the country of origin of the conflict minerals; and
- a description of the efforts employed by the reporting company to determine the mine or location of origin of the conflict minerals with the greatest possible specificity.

The regulation was finalized in 2012, with the first reports filed in 2014. In 2017, however, the SEC stated that it would suspend enforcement of the due diligence and audit requirements of the conflict minerals regulation. Despite relaxed enforcement by the SEC, the regulation remains in force, however, and companies are expected to continue to file disclosures about the source of minerals in their products. Additionally, the states of Maryland, California, and Oregon have state regulations that mirror Section 1502 of the Dodd–Frank Act (Woody, undated).

In January 2021, the European Union Conflict Minerals Regulation (European Union 2017) will go into effect. The EU regulation targets the same minerals as the Dodd–Frank Act and requires importing companies to disclose the origin of the minerals. The EU regulation is wider than Dodd–Frank since the regulation considers conflict minerals as those originating from any conflict zone or high-risk area, not just the DRC. High-risk countries can include those that have weak or non-existent governance structures, or have systematic violations of international law, including human rights abuses (Woody, undated).

Dodd–Frank has had a considerable impact on trade in the minerals concerned, which is reflected in the trade data of tantalum and tin concentrates sourced from the Great Lakes region. International tantalum and tin import reductions in 2010–11 coincided with the adoption of the Dodd–Frank Act, a temporary ban on artisanal and small-scale mining in the DRC, and a de facto embargo established by a number of international mineral buyers. Since then, imports of these minerals from the region have again increased (Schütte 2019). Nevertheless, downstream industry sources confirm that when possible they prefer sourcing their raw materials from mines outside the Great Lakes region.

With respect to gold, the results appear to be more problematic. According to the 2020 final report of the group of experts on the DRC

> the Congolese gold sector remained vulnerable to exploitation by armed groups and criminal networks and to unregulated trading. The volumes of smuggled gold were significantly higher than the volumes of legally traded gold. Companies operating in the tin, tantalum and tungsten sectors implemented mineral traceability and due diligence measures in accordance with the due diligence standards set by the Organization for Economic Cooperation and Development and the recommendations on guidelines for due diligence for importers, processing industries and consumers of Congolese mineral products produced by the Group. … However, the Group documented a number of persistent implementation challenges undermining the integrity of some supply chains. (United Nations Security Council 2020.)

In its midterm report, the group of experts had reiterated that regional gold export statistics do not reflect trading on the ground, given the volumes of minerals being smuggled through neighbouring countries. The group further noted that it had not yet received the information from authorities in Uganda about gold production figures for that country, officially requested since May 2019, and that disaggregated export data for coltan, cassiterite, and wolframite were published by the National Bank of Rwanda, while gold export figures were not published (United Nations Security Council 2019).

The NGO IMPACT adds that 'traders and exporters are establishing commercial entities along the entire supply chain, including in the producing country and at points of purchase, in transit, and trading hubs. By ensuring ownership or control over several entities throughout the supply chain, these actors maximize profits and render due diligence ineffective' (IMPACT 2020).

To this should be added that although the costs of the due diligence systems used may be small as a proportion of the export price of the commodities concerned, there is evidence that the cost of the measures is pushed back along the supply chain until it is borne by the first and economically weakest link, the artisanal miners who mine the minerals. For them, the cost may represent a substantial portion of their income (Cook and Mitchell 2014).

Business initiatives: responsible sourcing

Responsible sourcing is a very rapidly expanding practice. Farooki (2020) notes that the approaches range from offering guiding principles and due diligence templates to industry standards and standardized reporting practices. Some have evolved from collective industry learning, while others originate from civil society and investors. Many are specific to individual minerals or metals, such as aluminium, cobalt, copper, and gold, while others aim to cover all metals and minerals. With firms, governments and international institutions, investors, and civil society advocating for responsible sourcing, there has been a proliferation of initiatives, guidelines and templates, resulting in some overlap but largely a fragmented spectrum of operational and reporting principles. The lack of standardised reporting may hamper the ability to measure the impacts of firm practices.

The uptake of responsible sourcing practices by firms has largely remained voluntary. However, practices are beginning to move from a 'guidance' into a 'required' phase. The fragmentation of approaches will be a challenge for reporting and assuring compliance.

It is too early to draw any conclusions about the impact of responsible sourcing schemes. They cover a vast range of aspects, including environmental management, human rights, labour standards, community relations, and other social issues. Nevertheless, investors and financial institutions are increasingly taking into account observation of sustainability standards, including responsible sourcing schemes, when making investment or lending decisions. This would seem to argue that responsible sourcing will de facto become required for all companies that in any way depend on international equity markets or financial institutions for funding. Even companies that do not share this dependency (for instance, Chinese companies) may find themselves obliged to observe the schemes if they are at all integrated into international supply chains since companies in other parts of the same chain might have pledged to observe them.

4.3 Summary conclusions

Transparency schemes such as the EITI appear to have led to some improvements in transparency and accountability. Not unexpectedly, the effects appear to vary between countries, and it is also necessary to take into account that effects may only appear with some delay (although several studies show an immediate effect from joining the EITI). Adherence to the EITI is far from universal, but most large companies in the extractive industries are active in at least some EITI countries and would be expected to find it increasingly difficult to justify not applying the same standards in all countries where they do business, regardless of whether the host country requires transparency or not. Accordingly, transparency and disclosure are increasingly becoming the norm and are gradually expanding into trading practices. It is therefore reasonable to expect that the positive effects in terms of accountability will become more important over time. The costs of these schemes are, moreover, very modest, since they mainly involve the disclosure of information that is already available to companies and governments.

Government initiatives aiming to track the supply chain of minerals have been successful in imposing disclosure in some areas and for some commodities. The KPCS has become a necessity for businesses along the diamond supply chain, with the probable exception only of enterprises that operate wholly outside legitimate business networks. Requirements focusing on conflict minerals in the African Great Lakes region have been less successful. Although due diligence schemes seem to be working for and to cover most of trade in tantalum, tin, and tungsten, the impact on gold trade appears to be minimal. Since there is a considerable difference in cost between carrying our due diligence on products coming from the Great Lakes region and elsewhere in the world, it is also likely that some of the demand for the metals concerned has been diverted away from Africa towards other regions. In addition, the cost for the due diligence is mainly borne by those who can least afford it, that is, artisanal miners in Central Africa. The main conclusion is that initiatives must include all or almost all market participants and that the cost of due diligence be roughly equal for everybody involved for the schemes to work as intended.

Responsible sourcing initiatives based on voluntary reporting by businesses have proliferated and grown rapidly over the past decade. They have now become a part of the economic landscape and few companies can afford to exclude themselves from such initiatives. The introduction of a responsible sourcing requirement for metals traded on the LME confirms the trend. While the cost of responsible sourcing and the associated due diligence may not be insignificant, it is internalized in firms, which can also implement the measures most cost efficiently.

5 Overall conclusions

The concern about transparency in extractive commodities trade arose because of public opinion reactions to atrocities linked to the diamond trade and to instances of widely publicized and blatant corruption in certain countries. The public reaction was probably further strengthened by the reluctance or inability of resource producers and traders to engage with critics and to explain their business to public opinion. Many extractive and trading company executives felt offended by the image that was created of companies abusing human rights, destroying the natural environment, impoverishing local communities and committing massive tax evasion but found it difficult to understand that the public did not automatically believe their claims of innocence. The fact that extractive industries generally do not sell their products to end consumers and that their production sites sometimes function as enclaves may have contributed to their failure to connect with public opinion.

Transparency initiatives have gained wide acceptance and in most countries it has become unthinkable for large companies to exclude themselves or to engage with mandatory schemes such as the EITI with anything but enthusiasm. Accordingly, the first step, to achieve wide participation in transparency efforts and to establish a new norm, has succeeded. The second step is to ensure that the principles embedded in the initiatives guide the behaviour of companies and governments even when the particular activity in which they are engaged is not covered by the EITI or any similar reporting system. Here, it is less certain that the initiatives have succeeded. Two examples may illustrate the point: first, the broadening of the scope of the Kimberley process has not been accepted by governments, in spite of it being supported by both civil society organizations and the industry; second, efforts to improve the transparency of the operations of commodity trading companies have met considerable resistance, both from the companies themselves and from the governments directly concerned (see Public Eye 2018).

From the available data it appears that the economic importance of non-transparency and associated economic losses has probably been exaggerated, at least as far as the trade in extractive commodities is concerned (the case may be slightly different when it comes to the investment and production stages). The costs associated with transparency schemes are also unlikely to be prohibitive for either the governments or companies involved.

There would seem to be no obstacles for the trend towards increased transparency to continue, although much negotiation will be necessary on details. The combination of financing and trade arrangements may pose specific problems, both from the point of view of commercial confidentiality and governance risks, but there is nothing about these arrangements that should constitute an absolute obstacle to improved transparency. Toledano and Topal (2012) have reported that many companies maintain that implementation costs can be substantial because accounting instruments have to be revised to reflect project-based information. The claim has been contested, apparently credibly, on the grounds that much information is already collected. At the same time, it deserves to be emphasized that transparency may not always be the most effective way of dealing with tax evasion or illicit trade. Improved government capacity leading to better enforcement may be more cost effective than transparency.

The distribution of the cost of due diligence is a serious concern, since all too often it is borne by the weakest link in the supply chain, sometimes exactly the people whose interests are supposed to be protected.

The following recommendations flow from the discussion in this paper:

- Improvements should be made to public reporting and statistics produced by intergovernmental organizations and their data should be freely and easily accessible.
- Regional cooperation should be strengthened to harmonize regulatory and tax regimes in order to reduce incentives for illicit trade.
- Where it is not already the case, exchange listing requirements should include due diligence obligations modelled on the EITI.
- Improving transparency should be a routine element of bilateral and regional trade and investment agreements.
- Investment in capacity building in developing countries' tax administrations is often a more cost-effective measure than improved company transparency and should be seen as a necessary supporting element.
- Where the cost of due diligence is unevenly distributed, as in the case of procedures in the Great Lakes region, funds should be made available, for instance by international financial institutions, to finance the process.
- Ways should be found to include disclosure of financial arrangements involving trading companies and state-owned enterprises in reporting requirements in the EITI.

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