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Paul Healy and George Serafeim*

Abstract

Transparency advocates argue that disclosure of oil and gas company payments to host governments for natural resources is a public good, helping to reduce corruption and increase accountability in resource rich countries. Yet we find a very low frequency of voluntary disclosures of payments to host governments by oil and gas firms, and negative stock price reactions for affected firms at the announcement of regulations mandating disclosure. This suggests that sample firm managers and their investors perceive that there are private costs of such voluntary disclosures, contributing to continued low transparency and weak governance in resource rich countries. However, we document that industry self-regulation has generated information to substitute for the gap in voluntary company disclosure. We also find some evidence that these disclosures are accompanied by lower country corruption ratings, suggesting that collective action may be an effective way for the industry to manage the private costs of disclosure and respond to public pressure to improve governance in resource rich countries.

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1. Introduction

Prior research on firms' disclosure decisions has argued that they reflect a trade-off between private stock market benefits of incremental disclosure and the private costs of producing information and disclosing information to competitors (see Healy and Palepu, 2001, and Leuz and Wysocki, 2006 for summaries of this research). Few studies have explicitly examined externalities associated with information disclosure and firm responses to those externalities.¹ In this paper, we examine the decisions of oil and gas firms to disclose information on payments to foreign governments for natural resources. For these firms, we observe limited voluntary disclosure, reflecting manager and investor perceptions of significant private competitive and political costs associated with such disclosures. Yet disclosure in this setting arguably also serves a valuable public good function, increasing accountability for the use of government revenues from natural resources. Firms responded to this externality through self-regulation, agreeing to disclose information in a way that limits their proprietary costs. We examine the effectiveness of these self-regulatory efforts.

Despite the vast wealth generated from their oil and gas operations, countries rich in natural resources tend to have low economic growth, high levels of poverty, high levels of corruption in public and private sectors, a weak rule of law and political instability (see Frankel 2010). This 'resource curse' (Gylfason, 2001) has often been blamed on government misallocation of resources and corruption, leading many to argue that improved disclosure and governance are the keys to reversing the curse (Kolstad and Wiig 2009; Transparency International, 2011). Advocates of transparency argue that publication of information about

¹ Prior research has argued that one firm's disclosures can have externalities for investors by facilitating the comparison of the firm's performance with that of other firms, improving resource allocation. However, as Leuz and Wysocki (2006) point out, firms with the strongest performance have private incentives to provide disclosures that facilitate comparisons with other firms, leading the externality argument to unravel. In addition, they note that there is little evidence on the magnitude of this potential externality.

government revenues generated from natural resources is a public good, increasing accountability of government decision-makers that control those resources and improving development outcomes for their citizens.

However, transparency about payments to foreign governments also has potential to be costly for oil and gas companies. Such information can be valuable to host governments and competitors in influencing the terms of future negotiations or rewriting existing contracts. It can also be used by NGOs, the media and citizen advocates to question the adequacy of multinational company reimbursements to host governments for extracting natural resources.

We analyze the disclosure of payments to host governments by oil and gas firms in three settings: unregulated (voluntary disclosure), government-regulation, and industry self-regulation. We find that prior to any regulation, voluntary disclosure of host country government payments is rare, consistent with the private costs of such disclosure being considered high relative to any capital market benefits. Data on oil and gas company country-level disclosures for 2006 and 2009 compiled by Transparency International, a leading anticorruption non-governmental organization (NGO), shows that for 93% of the 461 sample company-host country pairings, there was no company disclosure of payments to host governments for use of oil and gas resources; partial disclosures (i.e. some but not all forms of payment, such as signature bonuses, profit taxes, royalties, and indirect taxes) were reported for 2.7% and full disclosure (i.e. all payment types) for the remaining 4.3%.

Analysis of changes in disclosure from 2006 to 2009 indicates little increase in transparency during this period. Four firms increased disclosures in eleven firm-host country pairings. Four of these eleven observations followed media allegations of corruption or other improprieties in the host country, suggesting that a controversy was required to induce many

companies to increase disclosure of government payments. Field research on Statoil, the only company in our sample to consistently disclose payments to host governments, indicates that the company adopted its disclosure policy in response to negative home market scrutiny following the revelation of its involvement in a corruption scandal in Iran. We conclude that, despite the arguable public benefits of disclosure, oil and gas companies typically perceive it as privately costly, leading to limited production.

To further understand the nature of private costs of disclosing oil and gas payments we examine mandated regulatory efforts to increase transparency. In 2010, section 1504 of the Dodd-Frank Act required extractive industry companies to disclose payments to host governments. The oil and gas industry and many companies fought the regulation, arguing that it would impose significant costs on them, and succeeded in delaying its adoption. Because the Dodd-Frank Act focused on regulating financial services companies in response to the 2008 financial crisis, the inclusion of section 1504 was unanticipated by the industry. This allows us to use short-window stock returns at the time of passage of the Dodd-Frank Act to examine any private costs it imposed on the industry.

We find that the proposal and subsequent passage of section 1504 had a negative impact on stock prices of affected firms. This effect was both statistically and economically significant, representing an average market-adjusted return of -1.9%, or a \$1.9 billion average decline in market capitalization. Cross-sectional tests show that these effects are lower for firms with higher voluntary disclosure of government payments and lower foreign assets, which are less likely to be affected by the new law, and higher for firms operating in host countries with high expropriation risk or that specifically ban disclosure of government payments.

The successful challenge to SEC attempts to implement the new regulation and the associated postponement of the implementation was accompanied by an average market-adjusted return of 1.1%. Further, sample firm market-adjusted returns at the announcement and passage of the regulation are negatively correlated with returns at its postponement, suggesting that firms expected to lose the most from the regulation recovered more of their stock value when the industry successfully lobbied to stop its implementation.

The low frequency of voluntary disclosure and the stock returns for affected firms at the passage and subsequent delay in implementing new disclosure regulations suggests that managers and investors perceive voluntary disclosure to be costly relative to its private benefits. However, their analysis does not factor in any public benefits from disclosure in terms of increasing accountability and governance in resource-rich countries.

Oil and gas firms have responded to public concern about the lack of transparency over payments to host governments and its impact on governance in those countries by collaborating with other stakeholders to collectively improve aggregate transparency. In 2003, the World Bank and other NGOs, companies, and governments formed the Extractive Industries Transparency Initiative (EITI). Countries that comply with EITI standards report government revenues from extractive industries to an independent EITI team, and participating companies report payments for natural resource rights to the same team. Unexplained differences between the two amounts, which are disclosed in EITI country reports, raise questions about the quality of record keeping and corruption. Such disclosure is intended to help identify discrepancies and ensure accountability of proceeds from oil and gas payments. However, critics question EITI's effectiveness in improving governance because of concerns about the reliability of reported data and because payments to local agents are not included.

We examine the effectiveness of EITI reports and disclosures. Our analysis suggests that EITI reports are of some value in addressing the limited voluntary disclosure of oil and gas companies. By 2014, 48 countries had implemented EITI standards and more than 237 reports on government revenues had been produced, covering more than \$1.5 trillion in revenues. The probability that reported company payments to host governments exceed reported government receipts (a potential sign of expropriation of government revenues) is higher in more corrupt countries. A one standard deviation increase in country corruption ratings is associated with a twofold higher probability of payments exceeding receipts, suggesting that EITI data in part reflects underlying corruption risk and that the reports are not merely cheap talk. In addition, we document that country corruption ratings decline after the initiation of disclosure of EITI reports, consistent with the increased transparency on government payments being associated with improved governance.

Of course this association does not necessarily imply that EITI reporting causes the decline in corruption. An equally plausible explanation is that EITI reporting is correlated with other changes in anticorruption legislation and enforcement in the host countries, and it is those changes rather than EITI reporting per se that causes the decline in corruption ratings. We conduct a search for other anticorruption initiatives around the same time in these countries and find little evidence of such concurrent efforts. Moreover, we continue to find weak evidence of a decline in corruption ratings even after controlling for time-varying measures of government effectiveness in a country fixed effects regression model. However, we are unable to rule out that the decline in corruption ratings is not caused by unobservable changes in institutions that are concurrent with initiation of EITI reporting.

The usefulness of industry self-regulation in this setting is in line with past research on the conditions that sustain cooperation and effective management of common goods, namely long-time horizons, high marginal return to cooperation and protection against free-riders (Ostrom 1990). Specifically, in the oil and gas setting participants have long-time horizons since development and extraction of natural resources is a long-term project. Moreover, there is a high marginal return on cooperation for oil and gas companies since if all firms disclose their government payments to EITI and country governance and institutions improve they will benefit from less political risk, better safety conditions for their employees, and lower risk of expropriation. Moreover, EITI provides protection against free-riders by making known the names of companies that participate at EITI and encouraging information exchange through multi-stakeholder engagements therefore allowing the reputations of participants to be known.

Our findings contribute to the disclosure literature by examining a setting when disclosure generates significant externalities, in our case by enhancing government accountability for funds generated from natural resources. Prior research has focused on settings where the costs and benefits of disclosure are largely private, and firms make shareholder value maximizing decisions to disclose or not. Consistent with these prior studies, oil and gas firms' disclosure decisions appear to primarily reflect the private political and competitive costs of disclosure, leading to virtually zero voluntary disclosure of payments to host governments. However, given concern over the public cost of the resulting information void, firms in the industry opted to collaborate with NGOs and governments to form an initiative to improve aggregate transparency without breaching the confidentiality of individual firm data. Our findings suggest that this form of self-regulation may be an effective way to enhance

transparency when firms' private incentives fail to reflect public benefits from increased transparency.

Our paper makes a contribution to the emerging literature on disclosures made by firms on environmental and social issues. An increasing number of firms are voluntarily disclosing information on company performance beyond traditional financial metrics, including emissions of pollutants, employee safety and water consumption. Multi-stakeholder coalitions, created by NGOs, have advocated for increasing transparency and self-regulatory efforts as ways to address externalities and drive change. In addition, an increasing number of countries are now mandating the provision of such information, complementing or in some cases substituting for these self-regulatory efforts (Ioannou and Serafeim 2015). Our setting allows us to shed light on the perceived costs and benefits around those disclosures for firms in unregulated, self-regulated and regulated settings.

The remainder of the paper is organized as follows. Section 2 provides a background on the oil and gas industry. Section 3 examines voluntary disclosure prior to regulation. Section 4 examines the economic impact of the regulatory efforts to increase disclosure by natural resource firms under the Dodd Frank Act of 2010. Section 5 analyzes the output produced by EITI and Section 6 presents our conclusions.

2. Oil and Gas Industry Challenges and Efforts to Increase Transparency

2.1 Oil and Gas Industry Challenges

Throughout its history, the oil and gas industry has been vulnerable to expropriation and corruption. There are several reasons for this. First, to conduct their business, oil and gas companies are required to make significant investments in infrastructure, such as pipeline,

transport, terminating, and port facilities in host countries. Once this investment is complete, local governments have incentives to renegotiate contracts, increase taxes, or even outright expropriate the investing companies' assets (see Klein, Crawford and Alchian (1978)). To recover the cost of its investments and to compensate for the risk of post-contractual opportunism from host governments, firms require high profit margins, which can range from \$50 to more than \$70 a barrel, exacerbating the risks of expropriation and corruption (see McPherson and MacSearraigh 2007). Second, many oil and gas producing countries have weak institutions. As a result, their government agencies face limited public accountability over the use of tax and royalty revenues (Robinson, Torvik, and Verdier 2006; Mehlum, Moene, and Torvik 2006). Individuals raising concerns over misuse of oil revenues can be ignored, bought off or intimidated (Karl 1997; Moore 2004). Third, the industry is subject to complex fiscal, legal, and commercial agreements governing revenue flows, which makes it easier for government officials who manipulate revenue flows for political or personal gain to conceal their activities (McPherson and MacSearraigh 2007). Finally, oil is critically important to the economies of many producing countries, which is used to justify extensive government involvement in the sector (Yergin and Stanislaw 1998), spawning opportunities for expropriation and corruption. By viewing oil as strategically important, consumer country governments exacerbate these problems. Their concerns over the security and continuity of supply often lead to arrangements with producer-country governments that overlook corruption and expropriation (McPherson and MacSearraigh 2007).²

2.2. Extractive Industries Transparency Initiative

² See for example "Oil Clouds West's Dealings with Africa Strongmen," Reuters, July 20, 2006; Ron Stodghill, "Oil, Cash and Corruption," New York Times, November 5, 2006; "With Friends Like These . . .," Washington Post, April 18, 2006; and Chris McGreal and Dan Galister, "The Tiny African State, the President's Son, and the \$35 Million Malibu Mansion," The Guardian, November 6, 2006.

The Extractive Industries Transparency Initiative (EITI) was established in 2003 in an effort to reduce corruption and increase accountability for efficient use of government revenues from oil and gas resources. Funded by the World Bank, the Initiative brought together producer countries, companies, and institutional investors to agree on a set of principles for transparency in the sector.

Under EITI standards, the governments of complying countries agreed to provide independent EITI teams with information on natural resource revenues. Companies that were members of the EITI agreed to provide information on government payments. The team would then prepare a report that covered areas for concern and disclosed aggregate government and company accounts of natural resource revenues and payments, thereby increasing accountability. By 2014, 48 countries had implemented EITI standards and more than 237 reports on government revenues had been produced. More than 90 of the world's largest natural resource extractive companies participated in the EITI.

2.3. Section 1504 of the Dodd Frank Act

The second effort to increase transparency in the extractive industries came through regulation in the U.S. On July 21, 2010, Congress passed the Dodd Frank Act. Although most of the Act's rules and regulations were directed towards improving oversight of the financial services industry, section 1504 included the requirement that U.S.-listed firms in extractive industries disclose project level payments made to foreign governments.

Industry responses to the new regulation focused on a number of concerns. Disclosing project-level data, it was argued, would raise proprietary costs because knowledge of project agreements across jurisdictions would increase local governments' bargaining power with companies bidding on new projects. In addition, it was perceived that the new law would

provide an unfair competitive advantage to companies not listed in the U.S., which would not be required to report such data. Finally, industry advocates noted that the new rules placed companies operating in countries where it was illegal to provide such disclosures (namely Qatar, China, Cameroon and Angola) in the position of being out of compliance with either U.S. or local country laws, potentially putting their business at risk in these countries. Several responding companies recommended adopting the approach advocated by EITI - companies could report data on various payments to host governments privately to the SEC, which would then aggregate the data across countries and disclose it to the public.

3. Voluntary Disclosure

Prior research indicates that firms voluntarily disclose information when the private benefits exceed the costs of disclosure (Verrecchia 1983, 2001). Private benefits to voluntary disclosure include reduced information asymmetry and lower cost of capital (Botosan 1997; Healy, Hutton and Palepu 1999; Leuz and Verrecchia 2000). However, disclosures of government payments by oil and gas firms are unlikely to provide valuable information to investors, at least relative to their potential political and proprietary costs (Darby 2009). Firms seek to negotiate attractive rates for rights to explore and develop promising new fields with host governments. They are sensitive about publicly disclosing country information on payments for extraction rights out of concern that host governments could use that information to justify renegotiating profitable past agreements or to push for higher taxes and royalties on current projects.

In addition, country-level disclosures on government payments can be politically sensitive. Advocacy groups can use this type of information to argue that foreign oil and gas

companies should contribute more to the local economy, encouraging host governments to renegotiate contracts, raise taxes, or even expropriate foreign company assets. Consistent with this concern, (Watts and Zimmerman 1986) argue that transparency for the oil and gas industry is likely to elicit scrutiny by politicians and the assessment of windfall profit taxes or other forms of government expropriation. Bushman, Piotroski and Smith (2004) show that countries with higher risk of expropriation tend to have lower corporate transparency. Eaton and Gersovitz (1983) observe that firms in extractive industries are particularly prone to host government expropriations. Guriev, Kolotilin, and Sonin (2009) report that between 1962 and 2006, there were 98 separate incidents of governments expropriating assets of one or more oil and gas firms operating in their country, and these do not include changes in tax regulations.

Given the potential proprietary and political costs of country-level disclosures for oil and gas firms, we hypothesize that few firms will voluntarily disclose country-level government payments.

Tests and Results

To test this voluntary disclosure hypothesis, we examine country-level disclosures by oil and gas firms prior to the Dodd-Frank Act using data collected by Transparency International (TI). TI was founded in 1993 as a non-government organization to prevent corruption and promote accountability. In 2007 and 2011, TI reported findings of studies of oil and gas company transparency in host countries using disclosures on payments to host governments in the form of profit taxes, signature bonuses, royalties, and indirect taxes for 2006 and 2009 respectively.

The 2007 TI study covered the 33 largest producers (Fortune Global 500 and/or Forbes Global 2000) plus 11 locally important national oil companies, mostly from oil-dependent countries. The 2011 study used data for 44 oil and gas producers (20 international and 24

national oil companies) that were based in 30 home countries and operated in 73 host countries.³ The sample firms accounted for 60 per cent of global oil and 55 per cent of global natural gas reserves. Given our interest in oil and gas firms' disclosure choices in host countries of operation, we use firm-level data provided by TI for the oil and gas producers covered in their studies.

Our final sample comprises 31 firms that operate in 66 host nations and generate 461 firm/host-country/year observations (116 observations in 2006 and 345 in 2009). Table 1 shows the number of companies in each host country-year. Average firm revenues are \$84 billion suggesting that the firms in our sample are very large. Twenty-six percent of the observations are for state-owned national oil companies and 74% for international oil companies.

Table 2 shows the distribution of disclosures across sample host countries. Full disclosure signifies that the company reports data for all types of payments made to a host country (i.e. profit taxes, signature bonuses, royalties, and indirect taxes); partial disclosure means that it reports at least one type of payment or total payments, but does not report data for all categories. On average, 92.8% of host countries have zero disclosures across both years. There appears to be little obvious pattern among countries with the highest rates of disclosure, such as Gabon, Chad, Nigeria, and Iran. However, even for these countries, the level of disclosure is low, with more than 67% of companies providing no disclosure.

Table 3 indicates that most companies disclose government payments in very few countries, if any. Only a few companies follow a different pattern. Statoil of Norway provides full disclosure for 71% of the country-years for which we have data. Petrocanada provides partial disclosures in the only host country in which it operates. Talisman of Canada and Total

³ The 2007 sample is smaller as Transparency International focused on collecting data for 43 companies (23 national oil companies) and their operations in 21 major oil exporting countries.

also provide partial disclosures in some host countries, but even for these companies disclosure is not the norm.

To better understand the motives for decisions to voluntarily disclose additional information on payments to host governments, we examine changes in disclosure between 2006 and 2009. Panel A of Table 4 shows that four firms increased their disclosure of government payments during this period in eleven countries. There is no apparent connection across these host countries or firms. With the exception of Statoil, none of the other firms systematically increased disclosure across their portfolio of host countries. Moreover, there is no systematic increase in disclosure for specific host countries. This suggests that any event that is causing firms to increase disclosure is likely to be firm-host country specific.

One country-firm specific event that could induce firms to increase disclosure of payments to a host government is a public controversy that disrupts its legitimacy in that country or its home country. Disclosure of government payments could provide disaffected citizens and NGOs with information on the extent of company funding of local government. To investigate company controversies associated with increases in disclosure, we examine media articles from Factiva that mention the operations of sample firms between 2006 and 2009, the time period for which we calculate changes in disclosure. The articles include all media sources of Factiva across all languages, excluding newswire, and are therefore not restricted to English media. We focus on media articles that identify controversies involving the sample firms, around corruption issues.⁴ Moreover, because some company-host country pairs have corruption articles that discuss anticorruption initiatives, current topics around corruption etc. but do not

⁴ We implement company-country specific searches and use the codes NS=GCORRP or NS=GBRIB to find corruption related articles. GCORRP refers to All news on corruption. Includes official corruption, the misuse of an official position for private advantage and political corruption, corruption of the political system through bribery, intimidation, extortion, vote buying, destabilization, or influence peddling. GBRIB refers to the act of offering, giving or receiving a gift or reward intended to influence a person's views or conduct.

involve allegations against corruption in the focal host country, we manually identify firm-host country pairs that have such articles by reading the set of Factiva articles.

Panel A of Table 4 reports that for four of the 11 company-host country observations with an increase in disclosure, the company was implicated in a controversy in the country in question. BP faced bribery allegations resulting from actions of one of its contractors in an engineering project in Azerbaijan. Eni was charged with corruption in both Kazakhstan and Nigeria, and Statoil faced bribery charges in Angola. Statoil and Total both increased disclosure in several host countries where we found no media allegations of corruption or fraud. However, as noted below, Statoil's policy of globally reporting on payments to host governments arose from an earlier scandal in Iran, and in 2006 investigations began over allegations that Total had paid bribes to secure contracts in Iran, which might have made influenced its willingness to expand its disclosure of government payments.⁵

To further analyze whether media-identified controversies are related to increased disclosure, in Panel B of Table 4, we report conditional probabilities of a media controversy in a specific host country for firms that increase and do not increase disclosure on government payments. The conditional probability of a media controversy is 16.6% for firms that increase disclosure, almost two times the probability (8.2%) for firm-country observations that make no increase in disclosure. This difference in conditional probabilities is both statistically and economically significant.

Statoil Field Study

To better understand the forces that underlie companies' decisions to increase disclosure on government payments, we conducted an in-depth field analysis for Statoil, the company with

⁵ See <http://www.reuters.com/article/2013/05/29/us-total-iran-idUSBRE94S1DT20130529>. Nigeria and Angola were the considered major development sites for Total.

the highest level of disclosure on host country payments in the industry.⁶ Our analysis included interviews with many senior Statoil executives who were involved in expanded disclosure decision.

Statoil was founded in 1972 as a wholly owned entity of the Norwegian government. The government sold 29.1% of its shares to the public in 2001, 2004 and 2005 privatizations. In 2007, Statoil merged with Norsk Hyfro, leaving the Norwegian government with a 67% stake in the combined entity. By 2014, Statoil had become the world's 20th largest oil and gas company with daily production of 1.9 million barrels of oil and proven reserves of 5.4 billion barrels. Sixty-three percent of the company's production took place in Norway, with 10% in the U.S. and a further 10% in Angola.

In 2002, Statoil was awarded partial operatorship of Iran's South Pars project, the world's largest non-oil natural-gas field. However, in September 2003, the Norwegian paper *Dagens Næringsliv* alleged that the company had paid \$15 million to Horton Investments, an Iranian consulting firm owned by Mehdi Hashemi Rafsanjani, son of former Iranian President Hashemi Rafsanjani, to influence political figures in Iran to grant it contracts.

A follow-up investigation by the Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime concluded that Statoil had violated the Norwegian Penal Code's prohibition on influence trading and fined the company \$3 million. Statoil accepted the penalty without admitting or denying the charges. The company's CEO, Olav Fjell, resigned in September 2003 when the story was disclosed, but was later cleared of any wrongdoing. Chairman Leif Terje Løddesøl and Director for international operations, Richard John Hubbard, also resigned in 2003.

⁶ The information reported on Statoil is discussed further in Serafeim, Healy and Lenhardt (2015).

Since Statoil was also listed in the U.S., it faced investigations by U.S. authorities. In October 2006, after two years of investigation, the company agreed to pay a \$10.5 million fine to the DOJ for violating the Foreign Corrupt Practices Act. In a statement published after the settlement, the company took responsibility for bribery, agreed it had improperly accounted for the payments in its books, and recognized it had inadequate internal controls. Statoil also agreed to pay a fine of \$10.5 million to the SEC, as disgorgement of the profits allegedly obtained.

Anders Hegna Hærland, Vice President for Communications for Statoil's international activities, explained how the scandal impacted the company:

Norway, as a society, is very open and transparent. Norwegian society is also values-driven. Given Statoil had been owned by the government for more than three decades, Norwegian citizens felt that they owned a part of the company and that it must therefore be responsible for its actions to the people of Norway. As a result, we were under a lot of scrutiny from the Norwegian people, the media, and the politicians. We were expected to be open.

The corruption scandal in Iran was a shock. People inside Statoil felt betrayed by some individuals. The scandal had tarnished the image our employees had of Statoil. The new CEO felt he had to rebuild the company, establish new leadership, new values. This became part of his initial program.

Given the criticism and pressure the company received from the Norwegian press and non-government organizations such as Global Witness and Publish What you Pay, its new CEO, Helge Lund, decided to increase transparency. This policy was also seen as important given Lund's decision to expand operations internationally, increasing exposure to countries where there was a risk of corruption. Hærland explained the decision to increase transparency:

Lund spent a lot of time to increase transparency within the company. Dedicated project teams were created to identify the risks, and propose solutions. Lund was really connected to the outside world, the topics that mattered to Norwegian people. He felt that his role at Statoil was to bring in the outside world on key issues

Our goal was to build trust in the civil society at home and in the communities where we operated. Some people in Norway questioned our strategy to go in countries where there was a high corruption risk. We could stay in Norway, they said. There were also strong debates in the countries where we went. So we had to

show these people that when we went overseas, we did our best to develop the country, help build infrastructures, and that we would be transparent about what we paid to the local governments. That was the only way to build trust!

In 2007, Statoil became the first major oil and gas company to voluntarily disclose all revenues and payments to governments for each country where it operated. Tove Stuhr Sjoblom, Senior Vice-President for Upstream Activities for sub-Sahara, who joined Statoil in 2007, explained the decision:

The ultimate goal of our transparency policy is to reduce corruption and increase accountability in governments so that people know what their elected politicians are doing. Transparency is the antidote to corruption. Corruption is one of the biggest risks we have; it can take down companies like ours. If we have a serious compliance issue in any of the countries we are in, we have a huge problem. I actually think that increased transparency would also benefit our industry, showing what value big projects actually create for a country, in terms of revenues, industrial development. That gives us credibility and shows that company profits do not contradict social development. ... There is a misperception that we are capturing all the profits [from our international operations]. The reality is different.

Of course, Statoil is not a typical oil and gas company. It is owned by and considers itself accountable to the country of Norway, rated one of the least corrupt in the world. Not surprisingly, the reactions of Statoil to the Iran scandal do not play out similarly in all scandals involving oil and gas companies. Pressure from home and host country media is likely to be less severe, and NGOs may perceive that pressure for increased disclosure is less likely to lead to change for companies that are fully privately owned, where accountability to the public is likely to be trumped by accountability to shareholders. Nonetheless, Statoil's experiences point to the types of tensions oil and gas firms face in operating in corrupt regions: pressure to avoid contributing to corruption and to build trust with local constituents to counter concerns that the company's activities do not come at the expense of the country's development.

In summary, our evidence on voluntary disclosure indicates that oil and gas firms provide very limited voluntary disclosure on government payments for host countries,

suggesting that they perceive that this type of voluntary disclosure is costly. The few disclosures that are provided appear to be in response to negative media publicity in the country in question or the home country around contributing to corruption and benefiting at the expense of local communities.

4. Impact of Mandatory Disclosure Regulation

As discussed above, Section 1504 of the Dodd-Frank Act required the SEC to issue a rule that mandated listed firms in the extractive industries to annually report payments by type, project and government. To comply with this regulation, in August 2012, the SEC required that issuers in extractive industries (including cross-listed firms) disclose all payments to federal and foreign governments that exceeded \$100,000 individually or in aggregate by project and government. The rule provided no exemptions in cases where foreign governments prohibited disclosure of this type of information. Disclosures were required to be made for years ending after September 30, 2013.

The proposed rule would significantly expand disclosures for most oil and gas companies. Under EITI standards, information on government payments provided by companies was effectively concealed since EITI reports disclosed only aggregate company payments to local governments. Further, companies reported total country payments to the EITI teams, and did not report the project level data required under Dodd Frank.

In response, on October 10, 2012, the American Petroleum Institute filed suit against the SEC alleging that the rule was unlawful and had misinterpreted the congressional mandate. A federal court agreed with a number of the allegations and in July 2013 vacated and remanded

the SEC rule for further evaluation. The SEC has yet to respond to this challenge, but has indicated that it is unlikely to produce revised rules until spring 2016.

Opposition to the SEC rule from the API and various multinational oil and gas firms focused on four points. First, the ruling would place U.S. listed firms at a competitive disadvantage relative to firms not required to disclose such information. Second, the disclosure could jeopardize the safety of the firm's operations and employees through sabotage, disruption, or expropriation. Third, the SEC rule was in conflict with regulations in certain countries, such as Angola, Cameroon, Qatar and China, which prohibited companies from disclosing information on payments to the local government. For example, Royal Dutch Shell (RDS) responded to the SEC, "RDS has received legal advice that disclosure in the U.S. of revenue payments made to foreign governments or companies owned by foreign governments, in relation to all or part of our activities, is prohibited by law in the following countries: Cameroon, China and Qatar. If the Commission does not provide an exemption from disclosure when prohibited by foreign law, the Commission will force RDS to either withdraw from these projects or violate foreign law."⁷ Finally, the industry argued that the self-regulatory efforts of EITI had improved transparency in the industry, and that this progress would be undermined by the new rules.

Because the new regulation has not yet come into effect in the U.S., we are unable to examine its impact on transparency and whether it provided any public benefits to the governance of resource rich countries. However, given the industry's reaction, we hypothesize that firms affected by the proposed ruling will have negative market-adjusted stock returns at its announcement and passage.

⁷ See RDS comment letter to SEC: <https://www.sec.gov/comments/s7-42-10/s74210-90.pdf>.

Tests and Results

In Appendix I we list relevant events that occurred around the law's adoption. For each of the publically listed oil and gas firms in our sample we calculate cumulative market-adjusted stock returns as follows:

$$CAR_i = \sum_{k=1}^n Return_{ijt} - Market Return_{jt}$$

where i is firm i , k is event k , n is the total number of events identified in Appendix I, and j is the country of primary listing of the oil and gas firm. The first four events increased the probability of disclosure regulation, whereas the subsequent three events, related to the API's challenge of the SEC implementation, the court decision against the SEC, and the formal API letter to the SEC that provides an alternative form of disclosure that avoids company-specific disclosure, decreased the probability. For each event, returns are cumulated for days -1, 0 and +1. Of the 31 companies in our TI sample, 26 are publically listed, enabling us to calculate stock returns.

We measure returns for two periods. CAR1 is the market-adjusted return for the events that increased the probability of disclosure legislation, (events 1-4 reported in the Appendix). CAR2 is the cumulative market-adjusted return for the three events that reduced the probability of that the disclosure rules would be implemented (events 5-7).

To examine whether market-adjusted returns differ systematically across sample firms based on hypothesized private costs, we classify the firms using a number of measures of impact. Firms that already provide relatively high levels of disclosure on government payments or are exempt from the rule are hypothesized to experience less negative stock price reactions since the new rule is unlikely to impose significant new private costs. We therefore construct a measure of a firm's disclosure level in 2009 as the percentage of host countries for which the

company reports government payments using the TI data (*Disclosure*). For partial disclosure in a host country we assign 0.5 points and for full disclosure 1 point. For firms that are not listed in the U.S. and hence are not subject to the legislation, we construct an indicator variable (*Exempt*) that takes the value one for firms not listed in the U.S. in 2009, and zero otherwise.

In contrast, we hypothesize that firms operating in host countries with a high risk of expropriation are likely to experience more negative stock price reactions, since the mandated disclosure could increase the risk of future post-contractual opportunism by host countries. We classify countries as having high or low expropriation risk based on the number of nationalizations in the past. Specifically, firms operating in host countries at the top quartile of nationalization risk are classified as high risk (*High Exprop. Risk Host Countries*). We use nationalization data from Guriev, Kolotilin, and Sonin (2009), which covers the period from 1962 to late 2006.⁸

Firms operating in host countries that prohibit disclosure of government payment data are also expected to suffer more negative stock price reactions. If such firms comply with the new U.S. disclosure laws, they will be in violation of host country laws, potentially generating incremental legal costs and/or limiting business opportunities in those countries. We create an indicator variable (*Prohibit Disclosure*) that takes the value one for firms operating in one or more of the four countries (i.e. Cameroon, China, Angola, and Qatar) identified in the SEC letters as prohibiting disclosure of local government payments.

We anticipate that firms domiciled in relatively low corruption countries are likely to experience more negative stock price reactions to Dodd-Frank as they are more likely to face scrutiny of their host country government payments once the new rule takes effect. *Home*

⁸ We calculate the variable as the count of the number of nationalizations in the past. Using an alternative variable that is measured by assigning a higher weight to more recent nationalizations leaves all our results unchanged.

Country Corruption is defined as the World Bank rating of country corruption for each firm's home country in 2009.

Finally, firms that have fewer operations outside their home country are expected to incur smaller private costs since their host-country operations are less important. We define an indicator variable, *Low Foreign Assets*, which takes the value one for firms whose percentage of assets in foreign countries in 2009 is lower than the median firm.

All summary statistics and univariate correlations are described in Panel A of Table 5. The mean market-adjusted return for all events that increase the adoption of the disclosure rules (CAR1) is -1.89%, versus 1.06% for the three events that decreased the likelihood of implementation (CAR2). Given the average market capitalization of the sample firms of approximately \$100 billion, this implies that passage of the new regulation reduced the market capitalization of the average firm by roughly \$1.9 billion. If investors anticipated the subsequent successful industry challenge to the implementation of the new regulation, this effect will understate the economic consequences of the new disclosure regulation.

The API challenge and subsequent federal court rejection of the SEC rule resulted in a substantial reversal of this value loss. Further, there is a statistically significant -29% correlation between CAR1 and CAR2. This suggests that oil companies that suffered the most negative stock price reactions around events increasing the likelihood of the regulation had the most positive returns around events decreasing the likelihood of the regulation.

As with any event study where the events of interest are clustered in time, there is a concern about the impact of confounding contemporaneous news. In this case, the Dodd-Frank Act includes other provisions that potentially affect oil and gas companies (although many of these had been discussed prior to the announcement of Section 1504), daily changes in oil and

gas prices, and daily updates on the Deepwater Horizon oil spill that took place on April 20, 2010. However, the negative correlation between the market-adjusted returns at the announcement/passage of section 1504, and those at the court decision to vacate the new disclosure rules gives us confidence that the effects reflect investor expectations of the impact of the new disclosure rules on the industry.⁹

Other statistics reported in table 5A indicate that the average firm has a disclosure score of only 0.10, suggesting that most firms are likely to be affected by the new disclosure rules. On average 11.5% of the sample firms are exempt from the rule and 42% operate in countries that prohibit disclosure of government payments. Finally, the average firm has a home country corruption rating of -1.4, which indicates that the firms are largely headquartered in countries with low corruption ratings (the World Bank control of corruption rating ranges from -2.5 to +2.5).

Table 5B reports the results of the regression analysis using cumulative market-adjusted returns for the two event windows. The findings using market-adjusted returns at the Act's announcement and passage (CAR1) are broadly consistent with our expectations. Firms with higher voluntary disclosure of government payments and lower foreign assets, which are less likely to be affected by the new law, have significant positive estimates implying less negative market-adjusted returns. In contrast, firms operating in high expropriation risk host countries and countries that specifically ban disclosure of government payments have more negative stock price reactions. Finally, firms from less corrupt home countries have more negative stock price reactions, reflected in the positive coefficient on the home country corruption variable.

⁹ To examine whether news related to the Deepwater Horizon spill is influencing our findings, we replicate our analysis excluding BP from the sample firms. The findings are not materially changed.

The magnitude of the estimates in table 5B indicates that investors anticipated that the Dodd-Frank regulation would impose a material private cost on the sample firms. For companies operating in countries with high expropriation risk, where disclosure could increase the risk of additional taxes or asset expropriations, the drop was -5.9%. For firms operating in countries that prohibit disclosure, the drop was -3.3%. Both these effects suggest that the political consequences of the provisions of the Dodd-Frank Act were perceived to be material. Although the average market-adjusted returns are now positive our cross-sectional model largely fails to explain these positive returns. The only coefficient on an explanatory variable that is marginally significant is the one on *Disclosure* which is negative as expected.

In summary, our results suggest that investors perceive that the mandatory oil and gas disclosure regulations adopted under the Dodd-Frank Act will impose significant private political and competitive costs on firms covered by the Act.

5. Impact of Collective Action

Countries that adopt EITI standards agree to publish timely public reports that provide information on the contribution of extractive industries to their economies, production data, state participation in the industry, and details of licenses, beneficial ownership and contracts. In addition, the reports disclose total government extractive industry revenues (as reported by the government) and total payments to the government (reported by oil, gas and mining companies) along with a reconciliation of any differences between the two, supplied by an independent administrator. As part of the country implementation, a multi-stakeholder group, covering government, companies, and civil society participants, is created to oversee the process. Finally, every few years the EITI appoints a Validator to meet with the various country stakeholders to review the effectiveness of the process and document any unmet requirements.

Transparency advocates argue that implementing these standards is likely to increase government accountability for the use of extractive industry resources and reduce the risk that corrupt officials expropriate funds provided by the industry from government coffers. Whether the adoption of EITI standards actually generates these benefits, however, is open to question. Governments (and firms) voluntarily decide whether to adopt EITI standards. Some may do so as a genuine effort to reduce corruption and increase accountability, perhaps as a result of pressure from citizens or NGOs. But others may adopt the standards as a form of window-dressing, anticipating that EITI reports are unlikely to reveal evidence of corruption or misuse of government funds. Consistent with this interpretation, critics of the standards observe that they do not require oil and gas companies to report on payments made to host country business partners and consultants that can include reimbursements for bribes paid to secure contracts on their clients' behalf. As a result, such payments, allegedly a common way for multinationals to bribe government officials, will not show up in either government receipts or in company payments.

We hypothesize that the gap between revenues and payments published in EITI reports is associated with country governance, a necessary (but not sufficient) condition for the data to provide relevant information to users. We also hypothesize that country adoption of EITI standards is associated with improved governance, consistent with the increased transparency from adoption providing a public good that increases government accountability.

Tests and Results

To examine the efficacy of EITI standards, we collect data for all member countries that have filed reports with EITI and who have reports available on the EITI website. By 2014, 31

countries were in compliance with the standards and a further 17 were in the process of implementation but had yet to satisfy all the requirements. Countries in compliance included a disproportionate number with low TI corruption ratings (e.g. Afghanistan, ranked 175th out of 177 countries; Yemen, ranked 167th; Chad, ranked 163rd; and the Congo, ranked 154th).

The specific details included in the reports vary across countries and time, but the aggregate revenues received by compliant governments and payments made by companies operating in those countries are consistently reported. The average country in our sample disclosed EITI reports for six years. The longest reporting country, Nigeria had reported data for 13 years (from 1999 to 2012), whereas Indonesia had only one year available. For the median country-year, revenues reported equaled payments, but there was substantial variation in discrepancies between revenues and payments. The mean difference deflated by payments to governments is 0.18% suggesting that, on average, reported payments are slightly higher than receipts. In US dollars, this is equivalent to \$11.25 million.

Our first test examines the relation between the country receipts-payments gap reported by EITI in a given year and country corruption. We use three measures of the receipts-payments gap. First, we define an indicator variable that takes the value of one if payments are more than receipts (*Excesspayments*). The second is the difference between payments and receipts scaled by the level of payments (*Difference*). And the third is the absolute value of the difference between payments and receipts scaled by the level of payments (*Abs. Difference*). If government revenue gaps identified by the EITI audit teams reflect corruption, we expect to observe a positive association between these variables and country corruption.

Panel A of Table 6 shows the results of this analysis. Our sample includes 187 country-year reports from 35 countries for which we were able to collect necessary data from EITI. We

use a logistic regression when the dependent variable is *Excesspayment* and an ordinary least squares specification when the dependent variable is *Difference* and *Abs. Difference*. All our regressions control for year fixed effects as well as for the reputation of the reconciliation team (an indicator variable that takes the value one if the audit team is a Big 4 accounting firm), and the natural logarithm of the number of companies that are reporting payment data for the country. We cluster standard errors at the country-level to mitigate serial correlation within countries.

The coefficient on country corruption is positive and highly significant when the dependent variable is *Excesspayment*. The estimate indicates that a one standard deviation increase in country corruption increases the likelihood that payments exceed receipts by a factor of four. However, the estimated coefficient on country corruption is insignificant when the dependent variables are *Abs. Difference* or *Difference*, even after controlling for a few highly influential differences. One interpretation of these findings is that while country corruption tends to be correlated with the probability of missing payments, the magnitude of the difference between payments and receipts is related to factors other than corruption, such as poor accounting and recording systems.

Our second test examines whether the decision to comply with EITI standards is associated with a change in corruption in the host country. To do so, we create a panel dataset between 1996 and 2013 covering all 184 countries with World Bank corruption ratings.¹⁰ There is usually a multi-year gap between a country's announcement of its intention to become EITI-compliant and the subsequent publication of an EITI report. For example, the government of Kazakhstan announced its commitment to implement EITI standards in 2005, and published the first report, for 2005, in late 2007. Subsequent reports were published for years 2006 to 2013.

¹⁰ The measure is provided for all years except for 1997 and 1999.

To recognize this delay between the announcement of intentions, and actual publication of data, we construct two indicator variables. The first, *EITI Intention*, takes the value one during years when a country has announced its intentions to implement EITI but has yet to publish a report, and is zero in prior years and in years when an actual report has been released. For example, for Kazakhstan, *Intention* would be coded one in years 2005 and 2006. The second variable, *EITI Public*, takes the value of one in country-years when an EITI report is published, and zero otherwise. For Kazakhstan, *EITI Public* would take the value one for years 2007 to 2013, and zero in earlier years. *Intention* therefore captures the timing of a country's intention to comply with EITI, and *EITI Public* the timing of its actual compliance.

Panel B of Table 6 shows OLS regression estimates where the dependent variable is country corruption measured by the World Bank, a variable that ranges from -2.5 to 2.5, where higher values indicate higher corruption. Country and year fixed effects are included to control for factors associated with corruption ratings other than EITI adoption. Corruption ratings are very sticky throughout the sample period, particularly for low corruption countries. For example, for low corruption countries, a model with just country fixed effects generates an adjusted R-squared of almost 95%, compared to only 50% for high corruption countries. We therefore estimate the corruption model separately for low and high corruption countries. Countries are classified as high (low) corruption for the sample period if they have an average corruption score greater than one (less than one).

As reported in Table 6, for high corruption countries the coefficient on *EITI Public* is negative and significant, indicating that after the disclosure of an EITI report, a high-risk country's corruption rating declines by 0.14, consistent with arguments of transparency advocates that there are public good benefits from the increased disclosure. The estimate is even

more economically significant (-0.19) when the *EITI Initiation* variable is included in the model. A 0.19 decrease in corruption rating is equivalent to the gap between Argentina and Brazil (Brazil has lower corruption) or between Romania and Greece (Greece has lower corruption). In contrast, the *EITI Initiation* variable has a negative coefficient (-0.11) but is not statistically reliable.

Of course, it is difficult to attribute the significant *EITI Public* estimates as evidence of the effectiveness of EITI reports, since the adoption of EITI standards could coincide with other changes in anticorruption laws or initiatives in the host country. To provide evidence on this confounding explanation, we investigate whether there are concurrent changes in anticorruption laws, oversight or initiatives to fight corruption adopted by the sample countries. The OECD Anti-bribery convention, which has detailed information on country monitoring processes and implementation efforts, does not cover many of our high corruption countries. A search of the World Bank country database on anticorruption laws, agencies and strategies, as well as local country initiatives provides little evidence that countries systematically adopted other anticorruption initiatives around the year of initiating EITI reporting. The only exception, Afghanistan, published proposals to combat corruption in the National Anti-corruption Strategy (aka Azimi report) and the Afghan National Development Strategy in 2008, one year prior to announcing its intention to implement EITI. Afghanistan issued its first EITI report in 2012, covering years March 2008 to March 2010.

Given the difficulty identifying specific country anti-corruption initiatives, we attempt to control for them in our analysis by including a time-varying country variable that reflects the quality of government. This variable, produced by the World Bank, “reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence

from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.” It is likely to be correlated with a country’s anticorruption efforts, but it could also capture any improvements in the government effectiveness from EITI reporting, potentially biasing downward the EITI variable estimates. As reported in Panel B of Table 6, the quality of government estimate is negative and significant. Its inclusion reduces the *EITI Public* estimate to 0.13, marginally statistically significant at the 9% level.

In contrast, for low corruption countries, we find no evidence that adoption of EITI standards or publication of EITI reports is associated with any material change in corruption rating. The estimates for *EITI Initiation* and *EITI Public* reported in table 6B are positive, but statistically insignificant.

In summary, we find some evidence that EITI reports of gaps between government revenues and company payments are higher in corrupt countries, a necessary (but not sufficient) condition for EITI information to be of value to potential users. In addition, we observe a decline in country corruption ratings at the time EITI reporting is initiated. Obviously it is difficult to draw strong conclusions from these findings, but they are consistent with increased transparency from collective action providing a public good in weak governance countries.

6. Conclusion

Our research examines the calculus of oil and gas companies’ decisions on disclosing payments to host country governments for oil and gas resources. We document that oil and gas firms provide very limited voluntary disclosure on payments to host government. Further, that pattern has not changed materially over time. Changes in country disclosures are concentrated in only a

few company-country pairs, and these tend to follow media allegations of corruption or fraud, suggesting that a crisis was required to induce companies to increase disclosure of government payments. Consistent with this hypothesis, field research on Statoil, the only company to provide extensive disclosure of payments to host governments, shows that the company policy arose in response to public pressure in Norway following revelation that the company had been involved in a bribery scandal in Iran.

The -1.9% average market-adjusted stock return for firms affected by the announcement and passage of U.S. regulations to mandate disclosure of payments to host countries provides further evidence of the perceived private costs of these disclosures. Cross-sectional tests indicate that returns are lower for firms with higher voluntary disclosure of government payments and lower foreign assets, which are less likely to be affected by the new law, and higher for firms operating in host countries with high expropriation risk or that specifically ban disclosure of government payments.

The low frequency of disclosure and stock return evidence indicates that managers and investors perceive that disclosure of oil and gas payments to host governments is costly, and that these costs are greater for firms operating in weak governance countries where there is a high risk of expropriation. But this calculus fails to reflect the potentially significant public benefits of such disclosures for governance and accountability in oil rich countries.

Oil and gas companies appear to have recognized this externality. In 2003, they collaborated with governments and NGOs to create the EITI, which worked with the various stakeholders to disclose aggregate company payments and aggregate governments receipts for oil and gas resources, presumably increasing transparency without divulging proprietary information for any single company. We examine whether these self-regulatory efforts have

been effective for governance in countries that have implemented the standards. We find that EITI findings of gaps between government revenues and company payments are related to country corruption, suggesting that the disclosures are likely to be informative for users. Further, we find evidence that the implementation of EITI standards is accompanied by a detectable decrease in country corruption ratings. Of course, such findings are subject to the caveat that other changes in government activity might be causing both EITI reporting and the changes in corruption ratings, although we find no compelling evidence of this.

Our findings raise several interesting questions. How do firms weigh public good benefits from disclosure in other settings where there are also private costs? Examples include disclosure of information on employment standards used by suppliers in countries with weak labor protection, or on companies' carbon footprints. What regulatory and market-based solutions arise for managing externalities associated with from these disclosures given their private costs? For example, a number of NGOs offer audits of supply chain firms to help companies manage this risk – although disclosures of audit findings are typically made to client companies, rather than to the public. Finally how effective are these approaches for increasing transparency and enhancing accountability in settings with weak governance?

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Table 1
Distribution of sample companies by host country and year

Host Country	Firms in 2006	Firms in 2009	Host Country	Firms in 2006	Firms in 2009
Algeria	11	11	Malaysia	5	5
Angola	7	7	Mali	.	1
Argentina	.	8	Mauritania	.	3
Australia	.	11	Mexico	.	2
Azerbaijan	7	11	Mongolia	.	1
Bangladesh	.	1	Myanmar	.	5
Bolivia	.	5	New Zealand	.	2
Brazil	2	7	Nigeria	6	11
Brunei	.	2	Norway	10	10
Cameroon	.	3	Oman	.	4
Canada	.	12	Pakistan	.	7
Central African Republic	.	1	Papua New Guinea	.	1
Chad	.	4	Peru	.	5
China	8	8	Philippines	.	2
Columbia	.	7	Qatar	2	4
Congo Dem.	.	2	Romania	.	2
Congo Republic	3	3	Russia	7	11
Croatia	.	1	Saudi Arabia	1	1
Cuba	.	1	Sudan	.	4
Denmark	.	3	Surinam	.	1
Ecuador	.	6	Syria	.	3
Egypt	.	8	Thailand	.	6
Equatorial Guinea	4	4	Timor-Leste	.	1
Gabon	.	3	Trinidad & Tobago	.	9
Germany	.	2	Tunisia	.	7
India	1	2	Turkmenistan	.	2
Indonesia	13	14	UAE	.	5
Iran	.	5	UK	.	14
Iraq	.	2	USA	11	14
Ireland	.	1	Uzbekistan	.	3
Italy	.	1	Venezuela	11	12
Kazakhstan	7	10	Vietnam	.	5
Libya	.	12	Yemen	.	4

Table 2
Distribution of company disclosures (full, partial and no) by host country

Host Country	Full Disclosure	%	Partial Disclosure	%	No Disclosure	%	Host Country	Full Disclosure	%	Partial Disclosure	%	No Disclosure	%
ALGERIA	1	5%	2	9%	19	86%	MALAYSIA	0	0%	1	10%	9	90%
ANGOLA	1	7%	1	7%	12	86%	MALI	0	0%	0	0%	1	100%
ARGENTINA	0	0%	0	0%	8	100%	MAURITANIA	0	0%	0	0%	3	100%
AUSTRALIA	0	0%	0	0%	11	100%	MEXICO	0	0%	0	0%	2	100%
AZERBAIJAN	2	11%	0	0%	16	89%	MONGOLIA	0	0%	0	0%	1	100%
BANGLADESH	0	0%	0	0%	1	100%	MYANMAR	0	0%	0	0%	5	100%
BOLIVIA	0	0%	0	0%	5	100%	NEW ZEALAND	0	0%	0	0%	2	100%
BRAZIL	0	0%	0	0%	9	100%	NIGERIA	3	18%	2	12%	12	71%
BRUNEI	0	0%	0	0%	2	100%	NORWAY	2	10%	1	5%	17	85%
CAMEROON	0	0%	0	0%	3	100%	OMAN	0	0%	0	0%	4	100%
CANADA	1	8%	0	0%	11	92%	PAKISTAN	0	0%	0	0%	7	100%
CENTRAL AFR. REP.	0	0%	0	0%	1	100%	PAPUA NG	0	0%	0	0%	1	100%
CHAD	1	25%	0	0%	3	75%	PERU	0	0%	0	0%	5	100%
CHINA	1	6%	0	0%	15	94%	PHILIPPINES	0	0%	0	0%	2	100%
COLOMBIA	0	0%	0	0%	7	100%	QATAR	0	0%	0	0%	6	100%
CONGO DEM. REP.	0	0%	0	0%	2	100%	ROMANIA	0	0%	0	0%	2	100%
CONGO REPUBLIC	0	0%	0	0%	6	100%	RUSSIA	1	6%	0	0%	17	94%
CROATIA	0	0%	0	0%	1	100%	SAUDI ARABIA	0	0%	0	0%	2	100%
CUBA	0	0%	0	0%	1	100%	SUDAN	0	0%	0	0%	4	100%
DENMARK	0	0%	0	0%	3	100%	SURINAM	0	0%	0	0%	1	100%
ECUADOR	1	17%	0	0%	5	83%	SYRIA	0	0%	0	0%	3	100%
EGYPT	0	0%	0	0%	8	100%	THAILAND	0	0%	0	0%	6	100%
EQUATORIAL GUINEA	0	0%	0	0%	8	100%	TIMOR-LESTE	0	0%	0	0%	1	100%
GABON	0	0%	1	33%	2	67%	TRYNIDAD-TOB.	0	0%	0	0%	9	100%
GERMANY	0	0%	0	0%	2	100%	TUNISIA	0	0%	0	0%	7	100%
INDIA	0	0%	0	0%	3	100%	TURKMENISTAN	0	0%	0	0%	2	100%
INDONESIA	0	0%	2	7%	25	93%	UAE	0	0%	0	0%	5	100%
IRAN	1	20%	0	0%	4	80%	UK	1	7%	0	0%	13	93%

IRAQ	0	0%	0	0%	2	100%	USA	1	4%	3	12%	21	84%
IRELAND	0	0%	0	0%	1	100%	UZBEKISTAN	0	0%	0	0%	3	100%
ITALY	0	0%	0	0%	1	100%	VENEZUELA	1	4%	0	0%	22	96%
KAZAKHSTAN	1	6%	0	0%	16	94%	VIETNAM	0	0%	0	0%	5	100%
LIBYA	1	8%	0	0%	11	92%	YEMEN	0	0%	0	0%	4	100%

A firm is classified as Full Disclosure if it reports all EITI payment types in that country. EITI payment types include signature bonus, profit taxes, royalties etc. A firm is classified as Partial Disclosure if it reports at least one but not all EITI payment types in that country. A firm is classified as No Disclosure if it reports no data on government payments in that country.

Table 3
Distribution of host country disclosures by company

Company	Full Disclosure	% Full Disclosure	Partial Disclosure	% Partial Disclosure	No Disclosure	% No Disclosure
BG	0	0%	0	0%	13	100%
BHP	0	0%	0	0%	7	100%
BP	1	3%	0	0%	29	97%
CNOOC	0	0%	1	25%	3	75%
CNPC	0	0%	0	0%	26	100%
Chevron	0	0%	0	0%	34	100%
Conoco	0	0%	1	5%	20	95%
Devon	0	0%	0	0%	8	100%
Eni	2	6%	0	0%	31	94%
Exxon	1	3%	0	0%	28	97%
GEPetrol	0	0%	0	0%	2	100%
Hess	0	0%	0	0%	18	100%
Inpex	0	0%	0	0%	13	100%
KPC	0	0%	0	0%	13	100%
Lukoil	0	0%	0	0%	5	100%
Marathon	1	14%	0	0%	6	86%
NexenInc	0	0%	1	20%	4	80%
OMV	0	0%	0	0%	8	100%
ONGC	0	0%	0	0%	9	100%
PetroChina	0	0%	0	0%	9	100%
Petrobras	0	0%	0	0%	13	100%
Petrocanada	0	0%	1	100%	0	0%
Petronas	0	0%	0	0%	13	100%
Repsol	1	6%	0	0%	16	94%
Shell	0	0%	1	3%	36	97%
Sonatrach	0	0%	0	0%	4	100%
Statoil	12	71%	0	0%	5	29%
Suncor	0	0%	0	0%	4	100%
Talisman	1	7%	4	27%	10	67%
Total	1	3%	4	11%	33	87%
Wintershall	0	0%	0	0%	4	100%
Woodside	0	0%	0	0%	4	100%

A firm is classified as Full Disclosure if it reports all EITI payment types in that country. EITI payment types include signature bonus, profit taxes, royalties etc. A firm is classified as Partial Disclosure if it reports at least one but not all EITI payment types in that country. A firm is classified as No Disclosure if it reports no data on government payments in that country.

Table 4

Firms with Increases in Disclosure

Firm	Host Country		Media Articles of Firm-Host Country Scandal
BP	AZERBAIJAN	BP faces bribery allegations relating to engineering projects for one of its contractors in Azerbaijan.	Yes
Eni	KAZAKHSTAN	2007 investigation for fraud; 2009 for corruption.	Yes
Eni	NIGERIA	Eni subsidiary charged with paying bribes for construction of LNG plants in Nigeria.	Yes
Statoil	ALGERIA		No
Statoil	ANGOLA	Global Witness raises concerns over Statoil Hydro's dealings with an oil company in Angola.	Yes
Statoil	AZERBAIJAN		No
Statoil	CHINA		No
Statoil	VENEZUELA		No
Total	ANGOLA		No
Total	NIGERIA		No
Total	NORWAY		No

Panel B: Probability of Disclosure Conditional on Corruption Allegations

	Media Articles of Firm-Host Country Corruption Scandal		p-value
	Yes	No	
N	24	85	
Conditional Probability of Increasing Disclosure	16.6%	8.23%	0.0481

Panel A shows all firms that between 2006 and 2009 increased disclosure of government payments for a specific host country. It also reports whether or not between 2006 and 2009 the firm in that host country was identified in the media as being involved in a corruption scandal. Panel B shows the probability of increasing disclosure conditional on being identified in the media as being involved in a corruption scandal.

Table 5

Panel A: Univariate statistics

Variable	Mean	Std Dev	CAR1	CAR2	Disclosure	Exempt	High Exprop. Risk Host Countries	Prohibit Disclosure	Home Country Corruption
CAR1	-1.90%	5.17%	1.000						
CAR2	1.06%	3.76%	-0.285	1.000					
Disclosure	0.104	0.391	0.086	-0.143	1.000				
Exempt	0.115	0.326	0.379	-0.093	-0.098	1.000			
High Exprop. Risk Host Countries	0.269	0.452	-0.311	0.291	-0.130	-0.219	1.000		
Prohibit Disclosure	0.423	0.504	-0.353	-0.101	0.286	-0.066	-0.169	1.000	
Home Country Corruption	-1.376	0.937	0.395	0.220	-0.163	0.341	0.249	-0.169	1.000
Low Foreign Assets	0.500	0.510	0.440	0.223	0.151	0.120	0.260	-0.234	0.265

Panel B: Multivariate Regressions

Dependent Variable	CAR1			CAR2		
Parameter	Predicted Sign	Coeff	t statistic	Predicted Sign	Coeff	t statistic
Intercept		0.016	1.06		0.012	0.59
Disclosure	+	0.016	1.76*	-	-0.014	-1.61*
Exempt	+	0.014	0.33	-	-0.017	-0.38
Low Foreign Assets	+	0.038	2.69**	-	0.013	0.92
High Exprop. Risk Host Countries	-	-0.059	-4.24**	+	0.002	0.71
Prohibit Disclosure	-	-0.033	-2.25*	+	0.007	0.15
Home Country Corruption	+	0.020	3.02**	-	0.014	0.69
Adj R-squared		50.7%			0.2%	
N		26			26	

Panel A presents summary statistics and univariate correlations. Panel B presents OLS estimates from multivariate regressions. CAR1 is the cumulative abnormal returns over the 3 events identified in the Appendix increasing the likelihood of regulation. CAR2 is the cumulative abnormal return over the three events identified in the Appendix as decreasing the likelihood of regulation. *Disclosure* is a firm's disclosure level in 2009 as the percentage of host countries for which the company reports government payments using the TI data. For partial disclosure in a host country we give 0.5 points and for full disclosure 1 point. *Exempt* is an indicator variable for firms that are not covered by the legislation because they are not listed in the U.S. *High Exprop. Risk Host Countries* is an indicator variable for firms operating in host countries at the top quartile of nationalization risk are classified as high risk. We use nationalization data from Guriev, Liotilin, and Sonin (2009). *Prohibit Disclosure* is an indicator variable for firms that operate in countries identified in oil and gas companies' comment letters to the SEC as host countries prohibiting disclosure of government payment data *Home Country Corruption* is the extent of a firm's home country corruption in a country as measured by the World Bank. Higher values indicate more corrupt countries. *Low Foreign Assets* is an indicator variable for firms that score lower than the median firm in terms of percentage of assets in foreign countries. Standard errors are robust to heteroscedasticity.

*/** Statistically different from zero at the 10%/5% level.

Table 6

Panel A: Payment Discrepancies and Country Corruption

Variable	Overpayment		Difference		Abs. Difference	
	Estimate	p-value	Estimate	p-value	Estimate	p-value
Intercept	0.512	0.622	0.097	0.359	0.149	0.112
Country Corruption	1.403	0.008	0.008	0.626	0.009	0.374
# of companies	-0.388	0.078	-0.017	0.300	-0.029	0.056
Big 4	-0.676	0.136	-0.024	0.295	-0.002	0.924
Year effects	Yes		Yes		Yes	
R-square	19.7%		1.3%		7.8%	
N	187		187		187	

Panel A presents estimates of a logistic regression (first specification) and an OLS regression (second and third specification). Overpayment is an indicator variable taking the value of one when payments are larger than receipts. Difference is the difference between payments and receipts deflated by payments. Abs. Difference is the absolute difference between payments and receipts deflated by payments. Country corruption is a variable that measures the extent of corruption in a country. # of companies is the natural logarithm of the number of companies that report payment data in that country. Big 4 is an indicator variable taking the value of one if the reconciler is a Big 4 auditing firm in that country. The sample includes 187 country-year observations for which we have data from EITI. Standard errors are clustered at the country level.

Panel B: EITI Reporting and Country Corruption

Dependent Variable	Country Corruption									
	Low Corruption Countries		High Corruption Countries		Low Corruption Countries		High Corruption Countries		High Corruption Countries	
Sample	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value
Variable										
Intercept	0.665	<.0001	1.220	<.0001	0.658	<.0001	1.224	<.0001	0.664	<.0001
EITI Public	0.065	0.265	-0.141	0.008	0.074	0.285	-0.189	0.010	-0.129	0.086
EITI Initiation					0.029	0.553	-0.106	0.133	-0.064	0.260
Government Effectiveness									-0.498	<.0001
Country effects	Yes		Yes		Yes		Yes		Yes	
Year effects	Yes		Yes		Yes		Yes		Yes	
Adj R-squared	95.0%		50.4%		95.0%		51.0%		63.8%	
N	2,325		435		2,325		435		435	

Panel B presents OLS regressions where the dependent variable is a country's extent of corruption. EITI public takes the value of one for country-years where an EITI report is published. EITI initiation takes the value of one for country-years that an EITI report covers. Government effectiveness measures the quality of government operations in a country and it is taken from World Bank. The sample includes 184 countries between 1996 and 2013. Standard errors are clustered at the country level.

Appendix

Number	Date	Event	Market-adjusted return
Events increasing probability of regulation			
Event 1	6/24/2010	House-Senate Conference Committee Holds A Meeting on The Wall Street Reform and Consumer Protection Act	-0.92%
Event 2	6/26/2010	Dodd-Frank Wall Street Reform And Consumer Protection Act Signed Passed	-0.21%
Event 3	7/21/2010	Dodd Frank signed including section 1504	-0.16%
Event 4	8/22/2012	SEC adopts section 1504	-0.61%
Events decreasing probability of regulation			
Event 5	10/10/2012	API sues SEC	0.93%
Event 6	7/2/2013	US District Judge tosses out SEC rule	0.76%
Event 7	11/7/2013	API submits letter to SEC on how to revise rule restricting public disclosure of governments payments	-0.64%