Voluntary, Self-Regulatory and Mandatory Disclosure of Oil and Gas Company Payments to Foreign Governments

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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. This leads us to examine unregulated, industry self-regulation, and government regulation of disclosure for the industry. Our findings indicate that sample firms and their investors perceive that there are private costs of voluntary disclosure of government payments, reflected in a very low frequency of voluntary disclosures and by negative stock price reactions for affected firms at the announcement of regulations mandating disclosure. However, industry self-regulation has created information to substitute for the gap in voluntary company disclosure. We find some evidence that such 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 that analyzes firms' disclosure decisions has typically argued that such decisions reflect a trade-off between private stock market benefits of incremental disclosure and the private costs of disclosing valuable information to competitors (see Healy and Palepu, 2001 Verrecchia, 2001). 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 argue that disclosure decisions are dominated by private competitive and political costs, leading to limited voluntary disclosure. Yet disclosure arguably serves a valuable public good function, giving rise to demand for regulation and collective action.

Prior research on the oil and gas industry has documented that, 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 government revenues generated from natural resources is a public good, increasing accountability of government decision-makers that control those resource 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 provide valuable information to host governments and competitors that influences the terms of future negotiations. It can also be used by NGOs, the media and citizen advocates to question the adequacy of multinational reimbursements to host governments for extracting natural resources.

Our study analyzes 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 high. 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. All but one of these companies did so only after media allegations of corruption or other improprieties in the host country, suggesting that a controversy was required to induce companies to increase disclosure of government payments. We conclude that, despite the arguable public benefits of disclosure, oil and gas companies 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 the Dodd-Frank passage 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 -0.9% to -1.1%, equivalent to a $1 billion average decline in market capitalization. Cross-sectional tests show that these effects are even larger for firms conducting business in host countries that prohibit disclosure of government payments and where risks of asset expropriation are high. For these firms, the announcement returns ranged from -2.4% to -3.8%. In addition, stock returns are less negative for the few firms that already disclose information on payments to foreign governments.

To provide evidence on the public benefits from disclosure of oil and gas company payments to host governments, we examine collective action efforts to increase 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.

Our analysis suggests that EITI reports are of, at least, some value in addressing the limited voluntary disclosure of oil and gas companies. First, there is a wealth of information that has been produced by EITI reports. 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. Second, we find 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 fourfold 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. Third, 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 alternative 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 changes. 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.

Overall, our findings highlight a different set of tradeoffs influencing firm disclosure decisions and demand for regulation than those reflected in much of the earlier literature. Companies and investors appear to perceive that the disclosure of payments to host governments imposes significant private political and competitive costs on oil and gas firms. The public good nature of the disclosure also creates demand for regulation and collective action. Findings on collective action promoted by the oil and gas industry suggest that self-regulation may be an effective way to increase transparency and fight corruption in the industry.

The remainder of the paper is organized as follows. Section 2 provides a background to 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 resources 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).[1]

2.2. Extractive Industries Transparency Initiative

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.

[1] 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.

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 having to 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 same 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 material 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. This makes them sensitive about disclosing information on payments for extraction rights since governments could use this information to justify post-contractual opportunism or to negotiate more aggressively 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.[2] 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

[2] 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.

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 observations 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 all EITI payment categories for a host country (i.e. profit taxes, signature bonuses, royalties, and indirect taxes) and partial disclosure means that it reports at least one type of payment but not all of them. 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 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. Disclosure of government payments could provide disaffected citizens and NGOs with information on the extent of company funding of local government. For example, following its indictment for corruption in Iran in 2002 and 2003, Statoil opted to increase disclosure of government payments for almost all countries where it had significant operations (Serafeim, Healy and Lenhardt, 2015). 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, such as bribery, environmental, or health and safety issues.

Panel A of Table 4 reports that for nine of the 11 company-host country observations with an increase in disclosure, the company was recently implicated in a controversy in the country in question. The only exceptions involved Statoil in Algeria and Venezuela. However, as noted above, Statoil's policy of globally reporting on payments to host governments arose from an earlier scandal.

To further analyze whether media-identified controversies are related to increased disclosure, in Panel B of Table 4, we report conditional probabilities of increasing disclosure on government payments given a scandal in the media about the firm in a specific host country. The conditional probability of increasing disclosure given a reported controversy is 15.5%, almost four times the probability (3.9%) for firm-country observations with no controversy. Excluding Statoil, the conditional probability of increasing disclosure given a controversy is 10.9% versus 0% in the absence of a scandal. These differences in conditional probabilities are both statistically and economically significant.

In summary, this evidence 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.

4. Impact of Mandatory Disclosure Regulation

As discussed above, Section 1504 of the odd-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.

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 may not 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 of company payments in certain foreign countries 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, prohibiting 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."[3] 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

[3] See RDS comment letter to SEC: https://www.sec.gov/comments/s7-42-10/s74210-90.pdf.

that firms affected by the proposed ruling will have negative market-adjusted stock returns at its announcement and passage.

Tests and Results

In Appendix I we list relevant events that occurred around the law's adoption.[4] For each of the publically listed oil and gas firms in our sample we calculate cumulative market-adjusted stock returns as follows:

$$\text{CAR}_i = \sum_{k=1}^{n} Return_{ijt} - Market\ Return_{\ jt}$$

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. All events increased the probability of a disclosure regulation except for events 7, 11 and 12, which decreased the probability. Therefore, we construct the measure of abnormal return by summing all market-adjusted event returns where return events 7, 11 and 12 are added with a negative sign. 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 three periods. CAR1 is the market-adjusted return for all twelve events related to the legislation, as reported in the Appendix. CAR2 is for event 1, the senate committee's first public discussion of government payments in conjunction with Wall Street reforms. This event was unexpected by industry observers. Finally, CAR3 is the cumulative market-adjusted return for the first two events, where the second event is the passage of the

[4] After the Dodd-Frank Act the European Commission (EC) also proposed a similar law for European Union (EU) and EU-listed extractive companies. Because the EC proposal reinforced the push for disclosure regulation we include key events related to the EC proposal in our event selection. All our results are unchanged if we exclude those events as the tests concentrating on CAR1 and CAR2 suggest.

Dodd-Frank Act that included Section 1504. We selected this second event because it made the disclosure mandate legally binding.

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 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.[5]

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

[5] 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.

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 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 returns for all events, event one, and events one and two are -2.6%, -0.9% and -1.2% respectively. These findings suggest that on average the announcement and passage of the new regulation reduced stock returns for oil and gas firms by -0.9% to -1.2%.[6] 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 billion.

[6] CAR1 effectively double counts the economic effect since it includes the negative returns associated with events that increased the likelihood of passage, and minus the returns associated with events that decreased its likelihood of implementation. As a result, it is more difficult to interpret economically.

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 firms has a home country corruption rating of -1.4, which indicates that the firms are largely domiciled 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 three event windows. The results are broadly consistent with our expectations. Firms that are likely to be affected the least by the new law have less negative market-adjusted returns. In particular, the estimates are positive for firms with high levels of voluntary disclosure of government payments, firms not listed in U.S. capital markets, and firms with few assets outside their home country. In contrast, firms operating in high expropriation risk host countries 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.

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. Our discussion focuses on CAR3 results, since these cover the two most significant events related to the passage of the legislation. For firms likely to face a conflict between the proposed U.S. law, which would require disclosure of payments to host governments, and host country law, which prohibited such disclosures, the incremental market-adjusted stock price drop at the announcement and passage of Dodd-Frank was -3.8%. For companies operating in countries with high expropriation risk, where disclosure could increase the risk of additional taxes or asset expropriations, the drop was

-3.1%. Both these effects suggest that the political consequences of the provisions of the Dodd-Frank Act were perceived to be material.

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 government extractive industry revenues (as reported by the government) and 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 embarrassing shortfalls in government receipts or misuse of government funds. Consistent with this interpretation, critics of the standards observe that they do not require firms to report on payments to government officials made through local agents. 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 data 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 weak 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 government payments is 0.18% suggesting that, on average, reported payments are slightly higher than receipts.

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 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, measure is the difference between payments and receipts scaled by the level of payments (*Difference*). And the third measure 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.[7] There is usually a multi-year gap between a country's announcement of its intension 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. 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

[7] The measure is provided for all years except for 1997 and 1999.

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 indicates 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 argument by transparency advocates 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 these decisions follow a somewhat different dynamic than those analyzed for many other disclosure studies. These studies focus on the private cost-benefit analysis of firms weighing a decision to provide additional information. For our setting, the private costs appear to dominate the private benefits, leading virtually no firms to voluntarily disclose this information. Further, there is little evidence that pattern has changed materially over time. Changes in country disclosures are concentrated on only a few company-country pairs, and these tend to follow media allegations of corruption or other improprieties in the host country, suggesting that a crisis was required to induce companies to increase disclosure of government payments.

The negative stock returns accompanying news reports of U.S. rules mandating disclosure of project-level payments by oil and gas firms to host government also points to the private costs of this form of increased transparency. We have some confidence that the negative returns for sample firms is caused by the regulatory changes, rather than concurrent industry factors, since we observe more negative stock returns for firms likely to face higher political and competitive costs following the new regulation.

However, transparency advocates hypothesize that disclosures of oil and gas firm payments to foreign governments provide a public good benefit to facilitate improved governance and accountability of resource rich country governments. Our findings are generally consistent with this hypothesis. Tests examining collective action efforts to increase transparency without compromising individual member firms' confidential data, show that EITI findings of gaps between government revenues and company payments are related to country corruption, a necessary condition for the disclosures to be informative to 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. First, what other settings are likely to be involve material private costs and public good benefits to company disclosure decisions? One example is company decisions to disclosure information on the employment standards used by their suppliers in countries with weak labor protection. Second, what regulatory and market-based solutions arise for managing the public good benefits 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 provide much disclosure of the findings. 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

Panel A: Firms with Increases in Disclosure

Firm	Host Country	Media Articles of Firm-Host Country Scandal
BP	AZERBAIJAN	Yes
Eni	KAZAKHSTAN	Yes
Eni	NIGERIA	Yes
Statoil	ALGERIA	No
Statoil	ANGOLA	Yes
Statoil	AZERBAIJAN	Yes
Statoil	CHINA	Yes
Statoil	VENEZUELA	No
Total	ANGOLA	Yes
Total	NIGERIA	Yes
Total	NORWAY	Yes

Panel B: Probability of Disclosure Conditional on Corruption Allegations

	Media Articles of Firm-Host Country Scandal		
	Yes	No	
# of All Changes	58	51	p-value
Conditional Probability of Increasing Disclosure	15.50%	3.90%	0.0387
# of Changes Ex Statoil	55	49	
Conditional Probability of Increasing Disclosure	10.91%	0.00%	0.0129

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, environmental, or health and safety scandal. Panel B shows the probability of increasing disclosure conditional on being identified in the media as being involved in a corruption, environmental, or health and safety scandal.

Table 5

Panel A: Univariate statistics

Variable	Mean	Std Dev	CAR1	CAR2	CAR3	Disclosure	Exempt	High Exprop. Risk Host Countries	Prohibit Disclosure	Home Country Corruption
CAR1	-2.60%	7.43%	1.000							
CAR2	-0.92%	2.32%	0.682	1.000						
CAR3	-1.13%	4.43%	0.780	0.883	1.000					
Disclosure	0.104	0.391	0.139	0.067	0.116	1.000				
Exempt	0.115	0.326	0.387	0.335	0.487	-0.098	1.000			
High Exprop. Risk Host Countries	0.269	0.452	-0.317	-0.291	-0.191	-0.130	-0.219	1.000		
Prohibit Disclosure	0.423	0.504	-0.227	-0.537	-0.424	0.286	-0.066	-0.169	1.000	
Home Country Corruption	-1.376	0.937	0.152	0.333	0.503	-0.163	0.341	0.249	-0.169	1.000
Low Foreign Assets	0.500	0.510	0.127	0.326	0.333	0.151	0.120	0.260	-0.234	0.265

Panel B: Multivariate Regressions

Dependent Variable	CAR1		CAR2		CAR3	
Parameter	Coeff	t statistic	Coeff	t statistic	Coeff	t statistic
Intercept	0.004	0.10	0.012	1.41	0.029	2.46
Disclosure	0.042	3.08	0.012	3.67	0.031	5.70
Exempt	0.063	1.22	0.016	1.44	0.035	1.76
Low Foreign Assets	0.006	0.25	0.009	1.73	0.011	1.20
High Exprop. Risk Host Countries	-0.052	-1.74	-0.024	-3.80	-0.031	-3.20
Prohibit Disclosure	-0.044	-1.92	-0.026	-4.26	-0.038	-3.60
Home Country Corruption	0.009	0.50	0.008	1.98	0.020	3.56
Adj R-squared	11.50%		53.82%		55.35%	
N	26		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 12 events identified in the Appendix. CAR2 is the cumulative abnormal return over Event 1 in the Appendix. CAR3 is the cumulative abnormal return over Events 1 and 2 in the Appendix. *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, Loiotilin, 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. *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.

Table 6

Panel A: Payment Discrepancies and Country Corruption

	Overpayment		Difference		Abs. Difference	
Variable	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									
Sample	Low Corruption Countries		High Corruption Countries		Low Corruption Countries		High Corruption Countries		High Corruption Countries	
Variable	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value
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
Event 1	6/24/2010	House-Senate Conference Committee Holds A Meeting on The Wall Street Reform and Consumer Protection Act
Event 2	6/26/2010	Dodd-Frank Wall Street Reform And Consumer Protection Act Signed Passed by the House-Senate
Event 3	7/21/2010	Dodd Frank signed including section 1504
Event 4	3/4/2011	EC officials' drafting legislation: ask large oil firms to reveal details of payments to governments on a country-by-country basis
Event 5	10/25/2011	EU Commission proposal on mandatory government payment reporting
Event 6	8/22/2012	SEC adopts section 1504
Event 7	10/10/2012	API sues SEC
Event 8	4/9/2013	Agreement on EU disclosure requirements
Event 9	6/12/2013	EU parliament votes to approve the revised Accounting and Transparency Directive
Event 10	6/26/2013	EU adopts the new Directive
Event 11	7/2/2013	US District Judge tosses out SEC rule
Event 12	11/7/2013	API submits letter to SEC on how to revise rule