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**Disclosure Requirements' Effect on Stock Returns
of U.S. Listed Natural Resource Extraction Issuers**

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Abstract

I examine the changes in firm value that oil, natural gas, and mining firms experience as a result of the implementation of the Cardin-Lugar Amendment into U.S. law. Using the traditional event study methodology I observe abnormal stock returns of U.S. listed extractive firms over five key events of the passage the regulation. The empirical evidence suggests that stock markets respond negatively to increased disclosure requirements for oil and gas producers, suggesting that the regulation harms the investors. In contrast the results suggest that the mining industry is in general unaffected by the Cardin-Lugar Amendment.

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1. Introduction

In recent years various regulatory authorities have pushed for increased disclosure requirements for extractive industries. The trend originated in the United States in connection with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the “Dodd-Frank Act”), and has since then followed in the European Union, United Kingdom, Canada, Norway and the Hong Kong Stock Exchange (SEC, 2015). The purpose of the regulations is to mitigate corruption and to increase the accountability of governments of resource rich countries (SEC, 2010; EITI, 2016). The issue of these regulations is that they have been pushed and implemented without knowing what effects they have on corruption in the country in question or what effect they have on the economy of the implementing country. This paper addresses the latter issue by providing empirical evidence on the economic consequences extractive firms experience by publicly disclosing payments made to governments. This knowledge contributes to the field of securities regulation for future anti-corruption regulation.

Increasing disclosure requirements of extractive firms can have a negative net effect. The main intent of the Dodd-Frank Act is to increase the stability of the financial system as a response to the financial crisis of 2008 (The Dodd-Frank Act, 2010). However, it includes some sections that expand the scope of the Act. In the Dodd-Frank Act’s final draft, *Section 1504 Disclosure of payments by resource extraction issuers* is included, which is a U.S. legal measure to mitigate corruption in countries where U.S. listed natural resource extraction issuers operates (The Dodd-Frank Act, 2010). In the arena of anti-corruption measures we do not know what affects foreign disclosure requirements will have on companies and accordingly we do not know if it is a sound measure in order to mitigate corruption. If the legislation harms the implementing country’s economy, it might not be considered an effective method. A financial regulation such as Section 1504 could result in U.S. listed companies retracting from the resource rich countries only to be replaced by companies that still do not have to disclose payments to governments. This results in a total negative effect as the citizens of the resource rich countries experience an economic status quo (or decline) and the country that implements the rule experiences an economic decrease.

It has been observed that some countries that are rich in natural resources still have poor economies and average low standards of living, a phenomenon known as *the resource curse* (Auty, 1993). The resource curse is a phenomenon involving several factors and this study relates to corruption as a part of that phenomenon. Resource rich countries are especially exposed to the costs of corruption where money is diverted from public services such as infrastructure and education to impersonal money flows. It increases the cost of capital of bribe-paying firms (Kaufmann and Wei, 1999), puts honest businesses in a competitive disadvantage, distorts markets, and prices of government contracts (International Chamber of Commerce, *et al.*, 2008). Economic development is highly dependent on trust, and corruption leads to a loss of trust (Shaxson, 2007). Corruption is a systemic matter rather than a matter of particular actors and their behavior, and it is a global matter with emphasis on international financial flows. A systemic approach to increase trust is through increased transparency through legislation such as the FCPA and Section 1504.

The Dodd-Frank Act includes Section 1504, which requires natural resource extraction issuers to publicly disclose payments made to foreign governments or the Federal Government (The Dodd-Frank Act, 2010). The Section is also known as *the Cardin-Lugar Amendment* and is an extension of the FCPA and a domestic implementation of the EITI. The FCPA, implemented in the U.S in 1977, made it illegal for certain classes of persons and entities to bribe foreign government officials in order to obtain or retain business. The act was enacted because corporate bribery had damaged the image of U.S. businesses and hindered the efficient functioning of markets (FCPA, 2012). The EITI was an initiative that launched in 2003 to promote global open and accountable management of natural resources, increasing transparency and accountability of governments and enterprises. The main goal of the increased transparency is to give the citizens of the resource rich countries more power to hold their governments accountable for the wealth that the resources are generating (SEC, 2012).

The Cardin-Lugar Amendment is still in the process of being implemented by the SEC after first being implemented and later vacated as a result of a lawsuit filed by

the American Petroleum Institute, the U.S. Chamber of Commerce, the National Foreign Trade Council, and the Independent Petroleum Association of America, hereafter referred as “API *et al.*” (Congressional Research Service, 2015). The SEC was sued on several grounds, the major stating that it would put the affected issuers in a competitive disadvantage against competing businesses by requiring the reports to be made publicly available. Moreover, they claimed that the SEC had not done an acceptable cost-benefit analysis and thus failed to consider the public interest properly. Lastly, the suit addressed the rule to exempt countries that forbid payment disclosures, namely Angola, Cameroon, China, and Qatar (Congressional Research Service, 2015). The SEC has re-drafted the rule that got vacated in 2013 and issued a new proposal on December 11, 2015 (SEC, 2015). The rule has not yet been admitted (2016-05-24).

The literature on financial regulation is extensive and it reaches from research on the Securities Acts of 1933 and 1934, to the Sarbanes Oxley Act of 2002. However, studies on the markets’ reactions on the Dodd-Frank Act is limited, as of March 2016 existing of only one accepted paper, according to knowledge of Gao, Liao and Wang (2016). Previous research on disclosure requirements’ economic impact on firm value is also limited, consisting of one short paper by Johannesen and Larsen (2016). In addition to Gao *et al.* (2016) a student paper examines the markets’ reaction on Section 1502 of the Dodd-Frank Act authored by Bronstein (2015).

The paper by Gao *et al.* (2016) serves as a foundation for this study. In their study they examine the markets’ reaction to the Dodd-Frank Act. The focus of the study of Gao *et al.* (2016) is the markets’ expectation of the effectiveness of the central intent of the Dodd-Frank Act. That is to reform and increase the safety of the financial system, in order to restore confidence in the financial market. In order to observe if any abnormal stock and bond returns are present the authors conduct event studies over 16 event dates to evaluate the markets’ reactions.

Johannesen and Larsen (2016) measure what effects a European legislation that requires firms in the extractive industry to report country-by-country tax payments has on oil, gas, and mining companies. The Development Committee of the European Parliament published in 2010 a proposal of country-by-country reporting of tax

payments of extractive industries to be integrated into the international financial reporting standards. It is not the same as the Dodd-Frank but it is an antecedent to preciously mentioned Directive/34/EU and thus has relevant substance for this study. In their study they conduct event studies over 4 event dates to observe any abnormal returns.

Johannesen and Larsen (2016) find overall negative abnormal returns cumulated over the legislation process. Their evidence suggests that tax evasion has been profitable and that the disclosure requirement is an effective measure to address tax evasion.

A student paper by Bronstein (2015) serves as an inspiration for the topic of this study. Bronstein conducts an event study to measure if the implementation of Section 1502 of the Dodd-Frank Act, which requires mineral companies to disclose the origin of their minerals, has an economic impact on mineral companies. This study compliments Bronstein by observing the economic impact of Section 1504 of the Dodd-Frank Act.

This study aims to increase the understanding of the economic consequences disclosing requirements have on extractive firms and I set out provide that knowledge by answering the following research question:

What affect does the passage of Section 1504 have on the firm value of U.S. listed extractive firms?

In order to observe any economic consequences I conduct an event study over five key event dates with a three-day event window to provide empirical evidence if events associated with the passage of the Cardin-Lugar Amendment result in abnormal stock returns for the extractive industries.

I find some evidence that the oil and gas industry experience negative cumulated abnormal stock returns in response to events that are *for* the passage of Section 1504 and positive cumulated abnormal returns in response to events that are *against*. These findings are however not consistent over all events. Regarding the mining industry only one event led to abnormal returns that were significantly different from zero,

suggesting the firm value of mining firms is unaffected by the Cardin-Lugar Amendment.

This paper contributes to the literature of securities regulation as well as the resource curse by adding knowledge to the fields that the firm value of U.S. listed oil and gas firms decreases to increased oil, natural gas and mining disclosure requirements. Increasing transparency as a measure of mitigating the resource seems to have negative consequences that have to be considered in future policymaking.

The continuing structure of the paper is as follows. In the next section I present the literature underlying this study. I present the methodology of the study and hypothesis in section 3. In section 4, I present the data collection process. Section 5 presents the results and an analysis of the results. A discussion of the study follows in section 6. Lastly I finish with conclusions in section 7.

2. Literature

The literature I present in this section explains firms' attitudes towards disclosure requirements in general, specific discussions regarding Section 1504, market behavior regarding regulation processes, and empirical findings of similar cases. I use this literature to provide a general understanding, with in-depth discussions, and empirical evidence to be able answer how the markets behave in regards to the Cardin-Lugar Amendment.

2.1 Firms' Attitudes Towards Disclosure Requirements

In theory, companies should strive for firm disclosure requirements, however, voluntary disclosure is a rare occurrence (Admati and Pfleiderer, 2000). Firms should strive for increased disclosure because strict disclosure requirements lead to improved liquidity and efficient markets in financial securities, and reduce cost of capital for firms through greater investor confidence. In addition, not disclosing information is regarded as an action and is to be taken as bad news. Inconsistent with this logic, firms in general do not voluntarily disclose information (Admati and Pfleiderer, 2000). Admati and Pfleiderer (2000) analyze a model of voluntary disclosure by firms and the desirability of disclosure regulation. Specifically they try to explain the

appropriate required level of disclosure, and I use the presented underlying assumptions and discussions from their study.

Firms do not voluntarily disclose information because it is costly. First, it is costly for firms to gather and process the information that is to be disclosed, especially if it needs to be confirmed by a third party, such as an accounting firm. Secondly, by disclosing information a firm provides important knowledge to competing businesses and other parties so that the firm could lose competitive advantages and bargaining power. Admati and Pfleiderer (2000) bring up Fishman and Hagerty (1998) that show that even if voluntary disclosure is costly, firms do not desire disclosure requirements. Admati and Pfleiderer (2000) present three basic assumptions:

- (i) firms' values are correlated and the disclosures made by one firm are used by investors in valuing other firms;
- (ii) disclosure of information is costly, and this cost increases in the precision of the disclosed information;
- (iii) Information asymmetries between firms and investors reduce firm value

Assumption (iii) is further built on the assumption that a decrease in information asymmetries increases the chances of the firm being bought by someone who values it more than its current holders. Value reductions are thus derived from underinvestment and costs connected with illiquidity. This implies that steps towards increased disclosure requirements to some extent increase firm value.

Berns (2011) discusses in his paper what costs that will arise with an implementation of Section 1504. He does so by discussing concerns raised by the oil and gas industry and analyzes the top 50 international oil and gas companies and their stock exchange participation (share of stock listed on stock markets), to decide the coverage of the regulation. Berns (2011) argues that Section 1504 fails to exhaustively cover listed extractive firms, which will result in competitive disadvantages to companies covered by the Section compared to firms that are not affected by the regulation. This change in competitiveness is likely to harm investors (Berns, 2011).

In addition to the costs raised by Admati and Pfleiderer (2000), Berns (2011) add that firms will suffer external public relations costs from disclosing payments to foreign governments publicly, and costs related to forced violation or costly renegotiation of existing contracts between companies and foreign governments. Securities law experts argue that that Section 1504 is a low-cost regulation and that it is an inevitable addition to a series of efforts of international disclosure standards. Berns (2011) answers that by stating that they overlook the competitive disadvantage affected firms will face. Berns (2011) argues that an implementation of the rules of the SEC proposed in 2010 will result in costs that are high enough for foreign firms to delist from U.S. stock markets. To further strengthen his argument he raises statements from industry participators that they might be forced to leave the U.S. market to protect their investors. U.S. listed companies will experience an increased disadvantage as more companies delist because there will be more unregulated firms that competes for the same contracts, potentially harming the U.S. economy even more (Berns, 2011).

2.2 Related Research on Disclosure Requirements for the Extractive Industry

Gao *et al.*, Liao and Wang (2016) authored the first accepted paper regarding the markets' reactions to the Dodd-Frank Act. In their study they examine the markets' reaction to the Dodd-Frank Act, and what economic impact the Act has on systemically important financial firms. Gao *et al.* (2016) evaluate the markets' expectations of the effectiveness of the Dodd-Frank Act in two regards, the intended reduction of risk-taking by banks, and the elimination of too-big-to-fail (TBTF). They also assess financial institutions' contribution to systemic risk surrounding the passage of the Dodd-Frank Act.

The article of Gao *et al.* (2016) is important for this study mainly because of its framework. Their empirical findings give small or no indication of what can be expected in this study, because different industries, events and legal implications are studied. They study how financial institutions, react to regulation for decreased risk-taking and TBTF, over events leading up to and including when the Dodd-Frank Act passed Congress (Gao *et al.*, 2016). Still, Gao *et al.* (2016) present three main assumptions that are relevant for this study. Firstly, they explain the markets' reaction to regulatory events as a combination of the costs/benefits of the proposed rules and

the likelihood of passage. Secondly, they assume that the likelihood of passage increases after each event. Thirdly, an event is interpreted as lobbyists successfully compromising the legislation when a positive market stock reaction is found. The final draft of the Dodd-Frank Act is considered a compromise of politicians and lobbyists from the banking industry who work to mitigate the restrictions of the law (Gao *et al.*, 2016). Data regarding lobbyists against Section 1504 has not been found, however five senators wrote a letter to the SEC urging the Commission to resist pressure by the oil industry to weaken the Dodd-Frank rule indicating that such pressure exists (Publish What You Pay, 2015). Additionally, the methodology used by Gao *et al.* (2016) is used in this study and is presented in the methodology section.

Johannesen and Larsen (2016) conduct an event study on the European Union's disclosure requirements on listed oil, gas and mining companies to report country-by-country tax payments. The empirical evidence presented suggests that disclosure requirements for the European listed extractive firms are associated with decreases in firm value with negative abnormal returns between 5 and 10 percent cumulated over the four studied events. Their findings give an indication of firms' attitudes towards increased transparency. According to the authors, the European rule has its origin to prevent tax evasion and by that the assumed explanations for eventual abnormal returns differ from the ones in this study. However, the requirements of the rules are quite similar, where both require listed oil, gas, and mining firms, to disclose payments made to governments, by country and by project. Therefore, the market reaction of the U.S. regulation is expected to be similar.

2.3 Inferences

Admati and Pfleiderer (2000) and Berns (2011) discuss that firms in general disfavor increased disclosure requirements because it is costly in multiple ways. Increased disclosure requirements increase costs directly as well as indirectly, by requiring the firms to acquire the necessary information and through lost opportunities as result of exposing strategically important information to competitors (Admati and Pfleiderer, 2000; Berns, 2011). Gao *et al.* (2016) add assumptions how the market will react, and Johannesen and Larsen (2016) present empirical evidence that the European market reacts negatively to increased disclosure requirements for extractive firms.

Based on the above presented literature, I hypothesize that observed firms will experience negative abnormal returns on events in favor of increased disclosure requirements (*for* the policy) and positive abnormal returns on events against increased disclosure requirements (*against* the policy).

3. Methodology

In order to measure the true effect an event will have on a firm or industry it is necessary to observe both short-term as well as long-term effects. It requires a lot of time and special data to observe different impacts, such as direct productivity related measures (MacKinlay, 1997).

A good way of measuring the economic impact of an event within a short period of time is to conduct an event study. A fundamental assumption for using the method is that the markets are efficient (McWilliams and Siegel, 1997), which implies that the stock prices are reflecting all relevant information that is available to the market. As new relevant information is introduced to the market the stock prices will be affected as the information is incorporated in the stock prices instantaneously.

The event study methodology is a common practice within the fields of finance and economics, with more than 500 published event studies (Kothari, Warner, 2006). This study will use the presented *Market Model*, which is the most used model for event studies because it uses easily accessible data and the gains of using more complicated models are limited (MacKinlay, 1997).

3.1 The Event Study Methodology

The first step of the event study is to define the event that is to be observed and to identify over which period of time the security prices of the relevant firms will be observed. The event period is the period where the impact of the event is studied and is commonly defined as a longer period than the specified event date (MacKinlay, 1997). The event dates for this study are presented in the data segment. I use a three-day event window with day 0 as the event date, ± 1 day. It is possible for information to reach the market before it is announced in media and I expand the event window -1

day to increase the possibility of catching the event (McWilliams and Siegel, 1997). I expand the event window +1 day to catch price effects of the information after the stock market closes on the announcement day (MacKinlay, 1997). Expanding the event window comes at a cost I restrict the event window to three days as a large event window decreases the power of the test statistic and it increases the risk of including confounding events (Brown and Warner, 1985; McWilliams and Siegel, 1997). Short event windows will usually capture the significant effect of an event (McWilliams and Siegel, 1997).

An important issue raised by McWilliams and Siegel (1997) is to correctly specify an event date. An event date is specified as an unanticipated event when new information is available to the market (MacKinlay, 1997). If the exact event date is anticipated the event is misspecified because prices will already incorporate the anticipated event outcome (MacKinlay, 1997). When observing regulatory changes it is of great importance to choose the date carefully, as regulatory changes often are in the political debate for long periods of time and it can be difficult to identify when new information actually is revealed (MacKinlay, 1997). If an event is misspecified one risk to draw conclusions from a supposed event that actually did not occur, which leads to incorrect results.

The second step for an event study is that the assessment of the impact of an event requires a measure of the abnormal return. The method used to identify abnormal returns is explained in the following segments. For firm i and the event date t the abnormal return is

$$AR_{it} = R_{it} - E(R_{it}|X_t) \quad (1)$$

Where AR_{it} is the abnormal return, R_{it} is the actual return and $E(R_{it}|X_t)$ is the normal return respectively for the time period t . X_t is the conditioning information for the normal return model, of which there are two method choices to determine. Either the *constant mean return model* where X_t is a constant, or the *market model* where X_t is the market return. The choice of model depends if the return is assumed to follow a constant mean or have a linear relation between market return and security return. I

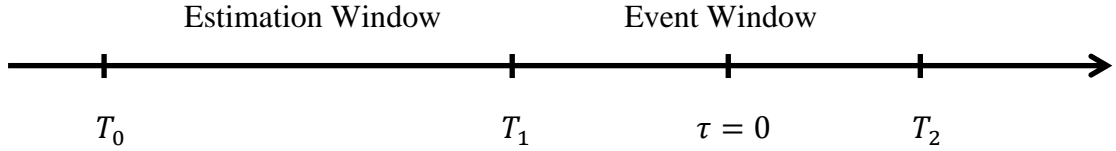
make the assumption that the extraction industry returns follow a linear relation according to the market model and will in this study follow that model. The market model for a security i is

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (2)$$

$$E(\varepsilon_{it} = 0), \text{var}(\varepsilon_{it}) = \sigma_\varepsilon^2$$

Where R_{it} and R_{mt} are the period t returns on security i and the market portfolio, ε_{it} is the zero mean disturbance term. α_i , β_i , and σ_ε^2 are the parameters of the market model. The market portfolio in this study is chosen to be the S&P 500 Index and the parameters are estimated using OLS regressing the data from the estimation window of 120 trading days prior the event date, spanning over a time period of over five months (MacKinlay, 1997). The complete time line of the study will indexed τ where $\tau = 0$ is the event date, $\tau = T_0 + 1$ to $\tau = T_1$ is the estimation window and $\tau = T_1 + 1$ to $\tau = T_2$ is the event window. A visual illustration of an event study time line is presented in Figure 1.

Figure 1: Time line for an event study.



Below I present a series of equations that are necessary to be able to calculate the sample estimated cumulative abnormal return \overline{CAR} and the test statistic θ . After estimating $\hat{\alpha}$ and $\hat{\beta}$ I calculate the estimated variance that is used to calculate the variance of \overline{CAR}

$$\hat{\sigma}^2 = \frac{1}{T_1 - T_0 - 2} \sum_{\tau=T_0+1}^{T_1} (R_{i\tau} - \hat{\alpha}_i - \hat{\beta}_i R_{m\tau})^2 \quad (3)$$

Using the market model to calculate the normal returns, I can estimate the sample abnormal returns using the given parameters as

$$\widehat{AR}_{i\tau} = R_{i\tau} - \hat{\alpha}_i - \hat{\beta}_i R_{m\tau} \quad (4)$$

This study examines data over two dimensions, both through time and across securities, which makes it necessary to aggregate the effects in order to draw any overall conclusions for the respective event. Studying an individual security I calculate the estimated *cumulative abnormal return* (\widehat{CAR}) as the sum of the abnormal returns of the security over the event window,

$$\widehat{CAR}_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} \widehat{AR}_{i\tau} \quad (5)$$

The variance of CAR_i is used to calculate the test statistic and is calculated as

$$\sigma_i^2(\tau_1, \tau_2) = (\tau_2 - \tau_1 + 1)\sigma_{\varepsilon_i}^2 \quad (6)$$

Calculating the CAR's from (5) for each security I can calculate the average estimated cumulative abnormal return of all securities,

$$\overline{CAR}(\tau_1, \tau_2) = \frac{1}{N} \sum_{i=1}^N \widehat{CAR}_i(\tau_1, \tau_2) \quad (7)$$

Where N is the number of securities studied in the event window. The variance can be calculated as

$$var(\overline{CAR}(\tau_1, \tau_2)) = \frac{1}{N^2} \sum_{i=1}^N \sigma_i^2(\tau_1, \tau_2) \quad (8)$$

I test if the abnormal returns are statistically different from zero during the event window using the test statistic

$$\theta_1 = \frac{\overline{CAR}(\tau_1, \tau_2)}{\sqrt{var(\overline{CAR}(\tau_1, \tau_2))}} \sim N(0,1) \quad (9)$$

If the test statistic rejects the null hypothesis that the abnormal returns are equal to zero, I can observe what impact each event had on the daily returns.

An event is interpreted as being *for* the policy if \overline{CAR} is significantly less than 0, and as *against* the policy if \overline{CAR} significantly more than 0, because firms regard disclosure requirements to be costly and should be better off if an event decreases the likelihood of increased disclosure requirements to be adopted.

The methodology I use differs to some extent compared to the one used by Gao *et al.* (2016). In their study they calculate abnormal stock returns as the difference between the raw stock returns and the mean stock returns of a control group. Whereas I use the above presented methodology where the estimated parameters functions as a control group.

Furthermore, this study only observes stock returns, in contrast to Gao *et al.* (2016) who also studies bond returns. The reason why they analyze bond returns in addition to stock returns is because their method to measure the effectiveness of reduced risk-taking is by observing a move from investing in stock to investing in bonds. In addition to different fields of interest, I consider observing stock prices to be sufficient because most event study applications observe effects on one type of security (MacKinlay, 1997). Additionally the models presented in MacKinlay (1997) are for common equity and to use debt securities one has to modify the models.

3.2 Robustness

To check the robustness of the test I have reconstructed the test with an expanded event window to see if the chosen length impacts the results, as well as to look if run-ups are present in the days prior the event date. I expand the event window to include 40 trading days, resulting in 39-day event window with a -37, +1 design.

4. Data

4.1 Event dates

This study examines the event of the Cardin-Lugar amendment, which is not bound to one specific date but has several dates that are of importance. The events are chosen

in accordance to the discussion in the methodology segment as an unanticipated event that reveals new information to the market.

The legislative history of the Cardin-Lugar Amendment stretches from the fall of 2006 and is still in progress since the final rule has yet to be adopted. Of its history I have identified seven important dates regarding Section 1504 and have narrowed it down to five event dates that will be assessed. An event has been left out if it has not met the requirements of an event date. The events have been identified through using the search functions on the webpages of the Wall Street Journal and the SEC using the search word “1504” (MacKinlay, 1997) as well using a list from Publish What You Pay (2015) that states the legislative history of Section 1504 until the rule was adopted in August 2012. A full list of identified dates is found in the appendix.

The first time Section 1504 was included in the Dodd-Frank Act was on July 15, 2010, when the final draft of the bill passed Congress and this is an event *for* the policy. I specify this as a valid event date because Section 1504 had previously not been included in the Bill and earlier versions of the Bill had failed to pass both the House and the Senate. I do not include the date when the President signed the Bill into law as no new information was provided and the signing was highly anticipated after passing Congress (Gao *et al.*, 2016).

The SEC proposed rules to implement Section 1504 on December 15, 2010, which I argue meets the requirements as the second event. The Dodd-Frank Act’s final impact is dependent on the regulation that follows of the regulatory authorities (Gao *et al.*, 2016). For Section 1504 it is the SEC that writes the final rules, thus all information regarding Section 1504 was still not available to the market. On August 22, 2012, The SEC adopted the rules however I do not include this event since no new information was provided. The proposal from the SEC is an event *for* the policy.

The third event is when API *et al.* filed a lawsuit against the SEC on October 10, 2012. This is the first event *against* the policy. The lawsuit was based on that the SEC had processed the rule proposal improperly and acted with bias by writing the rule without a thorough cost/benefit analysis. As mentioned before, the SEC was urged to not compromise with the pressuring industries and some expectations of resistance is

sound to assume. The lawsuit was however the first formal action against Section 1504 and the time and scale of the event was unknown. Behind the lawsuit were many important parties backing the claims and the impact of the event is expected to be significant.

API *et al.* won the case and the law was vacated on July 2nd, 2013, this event is specified as the fourth event and is *against* the policy. The outcome of a legal challenge is unknown until the court rules its final decision. The event of a final ruling was anticipated and the prices before this event should be reflect the markets' cost/benefit expectation in combination of the likelihood of the lawsuit passing. Thus, the possible abnormal returns should reflect the differences in the expected outcome and the actual outcome.

The final event in this study is when the SEC proposed a revised rule for Section 1504 on December 11, 2015. It was known that the SEC would work with the comments of the final court decision and propose revised rules (Congressional Research Service, 2015). Again, the final rules were not known, but in comparison to the first proposition in 2010 the probable scope is here argued to be greatly more predictable since a lot of information from the previous law could be anticipated to be the same. In contrary to the 2010 proposition, similar laws and directives had been implemented internationally before this proposition. I argue this to be in favor of the SEC to adopt the intended rules of the Dodd-Frank Act, thus, adopting firmer rules. Prior to this event, assumptions of the severity of the law will already be incorporated in the price, and price changes will be due to the outcome meeting or not meeting the markets' expectation.

4.2 Sample

The examined firms are chosen through a selection criteria based on the legislative range of Section 1504. The section defines a resource extraction issuer as “an issuer that (i) is required to file an annual report with the Commission; and (ii) engages in the commercial development of oil, natural gas, or minerals”, where commercial development of oil, natural gas, or minerals includes “exploration, extraction, processing, export, and other significant actions relating to oil, natural gas, or minerals, or the acquisition of a license for any such activity, as determined by the

Commission”.

My sample includes companies listed on NASDAQ, the New York Stock Exchange (NYSE) and NYSE MKT. The definition in Section 1504 could include a wide range of companies depending on how the Commission determines “other significant actions relation to oil, natural gas, or minerals”, and for practical reasons I have not reasoned what industries that might be, but instead focused on oil and natural gas producers, and mining companies according to Datastream. The sample from Datastream is gathered from *equities* in the *United States* from the categories *Oil and Gas Producers*, and *Mining*. The total number of oil and gas produces is 208, and 51 for mining.

Further I do not include companies which average daily trading volume, during the estimation window, does not exceed 100.000 (Bronstein, 2015). They are excluded in order to avoid the significant bias thinly traded stock can have on the results. Thinly traded stocks bias the variance estimate, by frequent zero-returns and extreme non-zero returns (Cowan and Sergeant, 1996). Confounding events, such as earnings announcements overlapping the event window, also generates biased results by affecting stock prices and increasing the variance of stock returns (McWilliams And Siegel, 1997; Brown and Warner, 1985). Therefore, I use Datastream to gather firms’ earnings announcement dates and have excluded firms whose earnings announcement overlap with the event window. After narrowing down the sample the final number of firms studied is 74 to 108 oil and gas producers, and 13 to 19 mining companies, varying on the different event dates.

MacKinlay (1997) discusses the use of small samples in event studies and McWilliams and Siegel (1997) raise issues with using small samples. Small samples are generally a concern in statistics but MacKinlay (1997) argues that event studies generally have a high power even for small samples when the abnormal returns exceeds one percent, but does not raise limitations. McWilliams and Siegel (1997) argue that there are two issues with using small sample sizes in event studies. Firstly, the test statistic of an event study is based on the normality assumption that is associated with large samples (McWilliams and Siegel, 1997). To address this issue McWilliams and Siegel (1997) suggests that researchers should use bootstrap

methods that do not assume normality. This suggestion has not been used in this study because of time restriction. Secondly, the test statistic is sensitive to outliers (McWilliams and Siegel, 1997) because the estimated parameters are based on OLS regressions, which are highly sensitive to outliers. Small samples are especially exposed because the impact of one firm's returns impacts the sample statistic in a higher degree. I do not control for outliers by deleting them, because I do not want to further decrease the sample size. A more extensive study can use a nonparametric test to control for potential outliers without compromising the sample size.

5. Results

The results are first presented with an overall discussion followed by an analysis for each event separately. Table 1 presents the empirical results of the study. In addition to the three-day event window I do a robustness check by reconstructing the test with a 39-day event window. The results of the robustness check are presented in Table 3. Descriptive statistics of the tests are presented in Table 2 and Table 4 respectively, and figures for the robustness check are presented in the appendix.

Table 1. Extractive Industries' Stock Market Reaction on Events Surrounding the Passage of the Cardin-Lugar Amendment with a 3-day event window.

Event Date	Event	For or Against the Policy	Oil and Natural Gas Producers		Mining Companies	
			N	\overline{CAR}	N	\overline{CAR}
15-Jul-10	The Dodd-Frank Act Passes Congress	For	74	-0.059 (0.448)	13	0.330 (0.425)
15-Dec-10	The SEC Proposes Rules for Section 1504	For	75	-1.851*** (0.000)	18	-5.829*** (0.000)
10-Oct-12	API <i>et al.</i> Files a Lawsuit Against the SEC	Against	93	3.026*** (0.000)	19	1.700* (0.089)

02-Jul-13	Section 1504 is Vacated	Against	98	-1.101*** (0.003)	19	0.287 (0.401)
11-Dec-15	The SEC Proposes Revised Rules for Section 1504	For	108	-5.446*** (0.000)	18	-3.109* (0.056)

Data collected from Datastream and calculated using the market model method with a three-day event window and S&P 500 as market index, a two-sided test with $p < 0.01$ *, $p < 0.05$ ***, $p < 0.1$ *, p-value in parenthesis, and N = Number of firms in event.**

Table 2. Descriptive Statistics of Cumulative Abnormal Returns for Events Surrounding the Passage of the Cardin-Lugar Amendment with a 3-day event window.

Event	Median		Standard Deviation		Spread	
	Oil and Gas	Mining	Oil and Gas	Mining	Oil and Gas	Mining
The Dodd-Frank Act Passes Congress	0.11	-0.74	0.45	1.74	15.52	10.31
The SEC Proposes Rules for Section 1504	-1.00	-5.33	0.44	1.42	22.47	12.49
API <i>et al.</i> Files a Lawsuit Against the SEC	3.17	1.45	0.43	1.25	23.8	23.24
Section 1504 is Vacated	0.18	-0.74	0.40	1.14	49.18	19.09
The SEC Proposes Revised Rules for Section 1504	-4.42	-3.20	1.01	1.95	56.7	22.94

The table presents median values to add to the mean values (CAR) presented in Table 1. Spread is calculated as the maximum CAR subtracted with the minimum CAR of the samples.

The first inference to be drawn from Table 1 is that there is a significant difference between the studied industries. The oil and gas industries show significant abnormal returns in four out of five events, whereas for the mining industry only one out of the five events has a test statistic that lies outside the critical region of the test ($\theta_{\alpha/2} = \pm 1.96$ for $\alpha=5\%$). The evidence suggests that the mining industry is unaffected by the passing of the Cardin-Lugar Amendment, with one exception. Furthermore, the

hypothesis is supported for four of the events that have significant abnormal returns. The only exception is that oil and gas industries show abnormal returns in the opposite direction of the hypothesis when the court vacates Section 1504.

The first event was the only event of the five studied where the null hypotheses could not be rejected for either of the industries. I expected this event to result in negative cumulative abnormal returns over the event window. The lack of abnormal returns could most likely be explained by that the market already expected this event to occur because it has been on the political agenda for a long time, as regulations usually are. That means that the prices already account for increased disclosure requirements and that the inclusion of Section 1504 came as no surprise. The results from Table 3 show no statistically significant presence of a run up prior the event date, which gives us further belief that the prices already incorporate an introduction of the Cardin-Lugar Amendment. This indicates that the event date is misspecified because the effect of the supposed event had already happened. As mentioned earlier the final impact of the Dodd-Frank Act depends on subsequent regulatory authorities, such as the SEC. Another possible explanation could be that the passage of the Dodd-Frank Act might not be particularly important to investors; instead greater focus is on the proposed rules by the SEC. I would argue, however, that it is unlikely that the market is unaffected by the passage of the Dodd-Frank Act and that the former explanation is more probable. In addition to Section 1504 this was also the first time *Section 1503 Reporting requirements regarding coal or other mine safety* was included in the Dodd-Frank Act (The Dodd-Frank Act, 2010). Section 1503 require mining companies to include information about mine safety in their annual reports and implies extra costs for the companies but does not reduce business opportunities in the same way that Section 1504 does, and the market's reaction is expected to be negative but modest. However, as the evidence show this did not affect the mining industry significantly.

In line with the hypothesis the second event shows significant negative cumulative abnormal returns for both industries. When the Dodd-Frank Act was signed in to law it stated that the SEC would propose its rules for Section 1504 within 270 days resulting in this event being partially anticipated (The Dodd-Frank Act, 2010). As earlier discussed however, the Dodd-Frank Act is highly dependent on the subsequent

regulatory authorities and thus the magnitude of the proposed rule was unknown. The results follow the expected pattern but there is a great difference in reaction between the two industries, with the mining industry experiencing far greater negative abnormal returns. During this event there are two important confounding events for mining companies to take in consideration when analyzing the results. In addition the Section 1504, the Dodd-Frank Act also includes *Section 1502 Conflict minerals* that further impacts the mining companies (The Dodd-Frank Act, 2010). Section 1502 requires issuers to disclose if any conflict minerals necessary to the functionality or production of a product originate from the Democratic Republic of the Congo or an adjoining country. The section restricts issuers' availability to conduct business and market reactions are expected to follow that of Section 1504. On this event date the SEC proposed rules for section 1502, 1503, and 1504 (SEC, 2013), all affecting the mining industry and the mining companies show large negative abnormal returns accordingly and the effect cannot be exclusively explained by Section 1504. This event date is the only one where the all three sections overlap in terms of correct specification of an event.

The empirical results for the third event are in line with the third hypothesis. The null hypothesis can however only be rejected for the oil and gas industry because the test statistic for the mining industry is below the critical region. The positive response to the lawsuit can be explained by that the markets expected the lawsuit to be likely to come through fully or partially, so that costs associated with Section 1504 would be avoided. The plaintiffs challenged the SEC on several claims and consisted of large players from both the oil and the trade industries (Congressional Research Service, 2015). This fact strengthens the lawsuit to have credibility and the markets' reaction is reasonable. An explanation why only the oil and gas industry experience significant positive cumulative abnormal returns is that the lawsuit was pushed by two large oil industry organizations.

When API *et al.* wins in court against the SEC, the oil and gas industry surprisingly experience negative cumulative abnormal returns. The lawsuit was pushed by the oil industry and by winning in court positive abnormal returns were expected, especially for the oil industry. Even if the negative abnormal returns are not of great magnitude the results are surprising. A possible explanation is that the even if the court vacated

the rule, the court did not meet all of the challenging claims made by the *API et al.* Instead, the court vacated the rule based on two errors made by the SEC, namely, that they misread the amendment from the Dodd-Frank Act that the information was to be publicly available and that they did not allow exemptions to be made for countries that do not allow payment disclosures. The SEC decided did not appeal the court's decision but instead stated that they would work on a new rule that met the objections made by the court. The outcome of the court decision was arguably less severe than the market expected and the expected gain incorporated in the stock price prior the event was too high.

The new proposal of the SEC results in great negative cumulative abnormal returns for the oil and gas industry. Following the arguments made for the second event, this event was partially anticipated of the market but was unknown in terms of exactly when the revised rules where to be announced and the magnitude of the rules. The results give us an indication that the rule was more severe than the market had expected. The new rules allow exemptions to be made, judged by the Commission on a case-to-case basis. However, the rule still requires the issuers to publicly disclose the information, a point that in 2013 led to the adopted rules being vacated (SEC, 2015). The information available to the public prior the event was that the SEC would meet the objections of the court, and keeping this requirement of public availability comes as a shock. Numerous commenters supported the requirement of public availability, which served as support for the choice to keep the requirement (SEC, 2015). A more drastic reaction was indeed expected, following the assumption that the likelihood of passage increases after each event. In contrast to the second event where the SEC presented the first proposed rules, the oil and gas industry experience greater cumulative abnormal returns than the mining industry. This enforces the argumentation of the second event that the mining industry experiences greater abnormal returns as a result of the confounding events.

5.1 Robustness

Table 3. Extractive Industries' Stock Market Reaction on Events Surrounding the Passage of the Cardin-Lugar Amendment with a 39-day event window.

Event Date	Event	For or Against the Policy	Oil and Natural Gas Producers		Mining Companies	
			N	CAR	N	CAR
15-Jul-10	The Dodd-Frank Act Passes Congress	For	73	1.694 (0.195)	13	-3.481 (0.302)
15-Dec-10	The SEC Proposes Rules for Section 1504	For	74	5.404 (0.100)	17	12.694*** (0.004)
10-Oct-12	API <i>et al.</i> Files a Lawsuit Against the SEC	Against	91	6.402*** (0.000)	18	14.505*** (0.000)
02-Jul-13	Section 1504 is Vacated	Against	98	1.748 (0.106)	19	-2.206 (0.291)
11-Dec-15	The SEC Proposes Revised Rules for Section 1504	For	107	-24.901*** (0.000)	17	-17.291*** (0.003)

Data collected from Datastream and calculated using the market model method with a 39-day event window and S&P 500 as market index, a two-sided test with $p < 0.01$ ***, $p < 0.05$ ***, $p < 0.1$ *, p-value in parenthesis, and N = Number of firms in event.

Table 4. Descriptive Statistics of Cumulative Abnormal Returns for Events Surrounding the Passage of the Cardin-Lugar Amendment with a 39-day event window.

Event	Median		Standard Deviation		Spread	
	Oil and Gas	Mining	Oil and Gas	Mining	Oil and Gas	Mining
The Dodd-Frank Act Passes Congress	1.74	-0.31	1.98	6.67	69.23	56.75

The SEC Proposes Rules for Section 1504	6.17	11.29	4.22	4.87	225.06	86.92
API <i>et al.</i> Files a Lawsuit Against the SEC	6.48	15.46	1.62	4.42	75.95	68.54
Section 1504 is Vacated	2.85	-4.22	1.39	3.98	114.72	52.34
The SEC Proposes Revised Rules for Section 1504	-19.92	-15.77	3.34	6.36	184.22	130.06

The table presents median values to add to the mean values (CAR) presented in Table 3. Spread is calculated as the maximum CAR subtracted with the minimum CAR of the samples.

The choice of event window length does seem to matter in some cases. For the oil and gas industry the second and fourth events lose their significance. For the mining industry the second event has opposite value with high positive abnormal returns and the third event now shows significant positive abnormal returns. Recalling the arguments of the costs of expanding the event window presented in the methodology segment it is not surprising that the results differ to some extent.

The second event of the robustness check show opposite direction of the abnormal returns opposed to the results in Table 1. The results suggest that the mining industry experience a run-up period over an expanded event window. This indicates that the market changed its expectations over time that the proposing rules would less costly than previously thought, or that they increasingly thought the rule to be unlikely to pass.

The third event shows interesting results where a run-up period in the expanded event window is present, for the mining industry cumulating positive abnormal returns to 14.5 percent. The lawsuit is considered to be clearly unanticipated and no run-up effect is expected to be present. A possible explanation for this is that the SEC adopted their final rules for both 1502 and 1504 on August 22, 2012 (The SEC, 2013), 49 days prior the event date ($\tau = -35$), and that the market expected the industries to challenge the SEC.

Lastly, the fifth event shows surprisingly large negative cumulative abnormal returns. This suggests that the market adjusted its expectation of the cost of the coming rule proposal to be increasingly costly than previously thought.

One consequence of increasing the length of event windows is that more confounding events are likely to be present. In the robustness check, confounding events have not been controlled for and that will bias the results.

6. Discussion

This study contributes to a relatively unexplored field of literature and adds important knowledge for future research and policymaking. The contributions are narrow as the observed events are restricted to the U.S. markets and no global conclusion can be drawn. I do however add one more block of understanding the dynamics of disclosure requirements and firm value. The results of this study rely on rather strong assumptions for the methodology and the explanations of the abnormal returns have not been tested empirically, but been discussed from a theoretical perspective. For the sake of transparency, opportunities to improve the study, and for future research, I present some limitations of the study below.

The results of the study show the presence or absence of correlations between an event and changes in firm value, but they do not infer information about causality. The causing effects presented in the literature segment are not proven to be collectively exhaustive for explaining the why the results occur. McWilliams and Siegel (1997) argue that as a second stage of an analysis the researcher should regress the abnormal returns against a measure of a given theoretical explanation. This requires a more extensive study as more specific data is to observe a potential proxy for a theoretical explanation. For this study, an example could be to regress the abnormal returns against the number of countries a firm operates in as a proxy for the cost of compliance, assuming it costs more to acquire all necessary data when a firm operates in more countries.

The presented discussions from Admati and Pfleiderer (2000) and Berns (2011) do have one important limitation for this study to address. The increased costs that

follow the implementation of disclosure requirements/Section 1504 are discussed from the firms' point of view, which do not necessarily represent the view of the market. The literature only presents one effect between firms and the market, which is that increased information asymmetry between firms and investors decrease firm value. Stock prices are assumed to be valued as the discounted value of all future cash flows (McWilliams and Siegel, 1997), and an increase in a firm's costs results in a decrease in future cash flows. Thus, the interests of the firm and investors are aligned. It is however sound to assume that the market and firms to some extent have differences in what is considered as value adding activities, that are not raised in the literature used in this study.

Furthermore, the presented causing effects are not weighted or discussed for their possible explanatory power of explaining the results. Instead, they are collectively used to explain a direction of an event. This is however a difficult task, for example, according to Johannesen and Larsen (2016) the estimated costs added for reporting the required information is around \$0.3 million per firm. This number differs greatly from ExxonMobil's estimations that state that the cost of compliance of the proposed rules will exceed \$50 million (Berns, 2011). Estimates can be assumed to be biased from the affected industry, however, for companies such as Shell that operates in over 90 countries, designing a system to account payments on project basis will require large amount of resources (Berns, 2011).

Another possible explanation discussed by Johannesen and Larsen (2016) and Shaxson (2007) is that disclosing payments made to government hinders the possibility for firms to use tax havens. Johannesen and Larsen (2016) focus only on tax payments and fail to recognize that "payments" includes more types of payments, for example license fees, production entitlements and payments for infrastructure improvements. I expand the possible explanations, but I do not take tax evasion in consideration. This study has the assumption that corruption mainly is a systemic matter and that the main issue is in the governments of the resource rich countries in line with Shaxson (2007). That assumption has however biased this study to assume that corporations do not push corruption or acts unethically by purpose, by using tax havens for example.

This study does not consider a possibly gain of presenting a good image by taking social responsibility and working towards transparency. Observing stock price effects alone does not give us enough information to evaluate if socially responsible behavior positively or negatively affects economic performance (McWilliams and Siegel, 1997). However, this could be an important aspect to consider. For example, Statoil did not support the lawsuit by API *et al.* but instead became one of the first major oil company to voluntarily disclose its payments to governments (Statoil, 2014). This gives us reason to believe that some firms find value in voluntarily disclose information.

A reason why the event study methodology dominates in the empirical research of corporate finance is because it is easy to conduct and results in direct wealth effects. The simplicity of the methodology does for this study come with a cost. The method only observes how the markets of the chosen industries react as a whole and does not consider the how exposed different firms are to the legislation. A more representative method would weigh the differences of exposure. For example, a firm that only operate in the U.S. will not be affected by Section 1504 to the same extent as a firm that only operates in countries such as Nigeria and Angola. However, that would need additional data sets that show to what extent the different firms operate in countries where corruption is present.

7. Conclusion

The evidence from this study suggests that the markets of U.S. listed oil and gas producers seem to react negatively in terms of firm value as a consequence of the passing of the Cardin-Lugar Amendment, suggesting increased disclosure requirements result in a reduction of wealth. The markets show no significant response for the mining industry regardless the nature of the event, with only one exception that overlaps with two important confounding events. The absence of abnormal returns suggests that the mining industry is unaffected by increased disclosure requirements. These findings in combination with the findings of Johannesen and Larsen (2016) stress the importance of knowing the full effect of foreign disclosure requirements as a measure to mitigate corruption in resource rich countries.

The evidence suggests that implementing disclosure requirements for extractive firms harms the implementing country/economic region. Thus, the empirical knowledge so far shows a net negative effect of the regulations. In order for the regulations to be successful, the corruption in the resource rich countries has to decrease to account for the decrease of economic value in stock markets.

8. Future Research

The final effect of the Cardin-Lugar Amendment is still to be examined since the final rule has yet to be adopted by the SEC. When the final rule is adopted and reaches its effective date, some of the presented theoretical discussions can be studied empirically. I invite future research to be conducted in order to study if affected companies retract from countries where corruption is present, and if foreign companies delist from the U.S. stock markets, as a result of Section 1504. Evidence regarding these questions provides valuable knowledge of the effectiveness of the intent of the Cardin-Lugar Amendment. That is, if corruption in resource rich countries will be mitigated or if the rule forces U.S. listed firms out of these countries only to be replaced by unregulated firms.

Furthermore, the existing research on this subject observes and presents empirical evidence for two local economic regions. To draw conclusions of how extractive firms react to disclosure requirements in general, research have to be done in all more where legislation as the Cardin-Lugar Amendment has been implemented. Possible future research can be conducted on the events of increased disclosure requirements in Norway, United Kingdom, Canada, and Hong Kong Stock Exchange.

References

Admati, Anat R., and Paul Pfleiderer. 2000. Forcing firms to talk: Financial disclosure regulation and externalities. *The Review of Financial Studies* 13 (3): 479-519.

Auty, Richard M. 1993. *Sustaining Development in Mineral Economies: The Resource Curse Thesis*. London: Routledge.

Berns, Branden Carl. 2011. Will oil and gas issuers leave U.S. equity markets in response to section 1504 of the Dodd-Frank Act? Can they afford not to? *Columbia Business Law Review* 2011 (3): 758.

Bronstein, E. 2015. Conflict Minerals Regulatory Events' Impact on Stock Price Returns in the US: Lessons for future conflict mineral policy. Student Paper.

Brown, Stephen J., and Jerold B. Warner. 1985. Using daily stock returns: The case of event studies. *Journal of Financial Economics* 14 (1): 3-31.

Clean Business Is Good Business, 2008, *available at*
https://www.unglobalcompact.org/docs/news_events/8.1/clean_business_is_good_business.pdf (last visited May 23, 2016)

Congressional Research Service, 2015, *available at*
<https://www.fas.org/sgp/crs/misc/R43639.pdf> (last visited May 22, 2016)

Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC [2003] OJ L 182/19 *available at*
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013L0034> (last visited May 22, 2016)

EITI Standards, 2016, *available at*
https://eiti.org/files/english-eiti-standard_0.pdf (last visited May 22, 2016)

FCPA Resource Guide, 2012, *available at*
<https://www.sec.gov/spotlight/fcpa/fcpa-resource-guide.pdf> (last visited May 20, 2016)

Fishman, M. J., and Hagerty, K. M. 1998. Mandatory Disclosure, *The New Palgrave Dictionary of Economics and the Law*, edited by P. Newman, MacMillan Press.

Frankel, A. J. 2010. The Natural Resource Curse: A Survey. Working paper, National Bureau of Economic Research.

Gao, Yu, Scott Liao, and Xue Wang. 2016. Capital markets' assessment of the economic impact of the Dodd-Frank Act on systemically important financial firms. *Journal of Banking & Finance*.

Institute for Energy Research, 2010, *available at* <http://instituteforenergyresearch.org/analysis/a-primer-on-energy-and-the-economy-energys-large-share-of-the-economy-requires-caution-in-determining-policies-that-affect-it/> (last visited May 23, 2016)

Johannesen, Niels, and Dan Thor Larsen. 2016. The power of financial transparency: An event study of country-by-country reporting standards. *Economics Letters*.

Kaufmann, D., Wei, S. J. 1999. Does "Grease Money" Speed Up The Wheels of Commerce? Working paper, National Bureau of Economic Research.

MacKinlay, A. Craig. 1997. Event studies in economics and finance. *Journal of Economic Literature* 35 (1): 13-39.

McWilliams, Abigail, and Donald Siegel. 1997. Event studies in management research: Theoretical and empirical issues. *The Academy of Management Journal* 40 (3): 626-57.

Oxfam America Media Briefing, 2015, Show Us The Money! *available at* http://www.oxfamamerica.org/static/media/files/Media_brief_1504_anniversary.pdf (last visited April 20, 2016)

Publish What You Pay, 2015, Legislative History Cardin-Lugar Amendment or Section 1504 of the Dodd-Frank Financial Reform and Consumer Protection Act *available at* http://www.publishwhatyoupay.org/wp-content/uploads/2015/12/Legislative-History-Timeline_1504.pdf (last visited April 3, 2016)

Sala-i-Martin, X., Subramanian, A., 2003, Addressing the Natural Resource Curse: An Illustration from Nigeria, *available at* <https://www.imf.org/external/pubs/cat/longres.aspx?sk=16582.0> (last visited February 28, 2016)

Securities and Exchange Commission, 22 August 2012, 17 CFR Parts 240 and 249. [Release No. 34-67717; File No. S7-42-10]. RIN 3235-AK85, *available at* <https://www.sec.gov/rules/final/2012/34-67717.pdf> (last visited May 19, 2016)

Securities and Exchange Commission, 2013, Specialized Corporate Disclosure, *available at* <https://www.sec.gov/spotlight/dodd-frank/speccorpdisclosure.shtml> (last visited May 23, 2016)

Securities and Exchange Commission, 10 December 2015, 17 CFR Parts 240 and 249b. [Release No. 34-76620; File No. S7-25-15]. RIN 3235-AL53, *available at* <https://www.sec.gov/rules/proposed/2015/34-76620.pdf> (last visited May 19, 2016)

Shaxson, Nicholas. 2007. Oil, corruption and the resource curse. *International Affairs* (Royal Institute of International Affairs 1944-) 83 (6): 1123-40.

Statoil Annual Report, 2014, *available at* <http://www.statoil.com/en/investorcentre/annualreport/annualreport2014/pages/default.aspx> (last visited May 20, 2016)

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, 2010, *available at* <https://www.sec.gov/about/laws/wallstreetreform-cpa.pdf> (last visited May 23, 2016)

Appendix A: Legislative History

Table 5. Full legislative history of the Cardin-Lugar Amendment.

Event	For or against legislation	Event date
Various congress work regarding transparency of the extractive industry	FOR	2006 <
Introduction of the Energy Security Through Transparency Act	FOR	23-09-2009
The Dodd-Frank Act including Section 1504 passed Congress*	FOR	15-07-2010
The President signs the Dodd-Frank Act into federal law	FOR	21-07-2010
SEC proposes rules for Section 1504*	FOR	15-12-2010
SEC adopted the rules for Section 1504	FOR	22-08-2012
API files a lawsuit against the SEC for Section 1504*	AGAINST	25-10-2012
The US Court vacates SEC's rule for Section 1504*	AGAINST	02-07-2013
SEC proposes a revised version of Section 1504*	FOR	11-12-2015

* Event classified as an event date according to MacKinlay (1997).

Appendix B: Company Tickers

Table 6. List of company tickers used in the study.

Oil and Gas Tickers					Mining Tickers
@AREX(P)	U:APA(P)	U:ENBL(P)	U:OAS(P)	U:TRGP(P)	@ARLP(P)
@AXAS(P)	U:APC(P)	U:EOG(P)	U:OXY(P)	U:TSO(P)	@CETC(P)
@BBEP(P)	U:AR(P)	U:EPE(P)	U:PARR(P)	U:UPL(P)	@HNRG(P)
@CRZO(P)	U:ARP(P)	U:EQT(P)	U:PBF(P)	U:WES(P)	@RGLD(P)
@EVEP(P)	U:BBG(P)	U:ERN(P)	U:PBT(P)	U:WGP(P)	@WLB(P)
@FANG(P)	U:BCEI(P)	U:ESTE(P)	U:PE(P)	U:WLL(P)	29557Q(P)
@GPOR(P)	U:BPT(P)	U:GLP(P)	U:PER(P)	U:VLO(P)	U:AMCO(P)
@LGCY(P)	U:BSM(P)	U:GTE(P)	U:PHX(P)	U:WNR(P)	U:AUMN(P)
@LINE(P)	U:CHK(P)	U:HES(P)	U:PQ(P)	U:WPX(P)	U:BTU(P)
@LLEX(P)	U:CHKR(P)	U:HFC(P)	U:PSX(P)	U:WTI(P)	U:CDE(P)
@LNCO(P)	U:CIE(P)	U:HGT(P)	U:PX(D)	U:XCO(P)	U:CLD(P)
@MEMP(P)	U:CLR(P)	U:HK(P)	U:QEP(P)	U:XEC(P)	U:CMF(P)
@MRD(P)	U:COG(P)	U:HNR(P)	U:REN(P)	U:XOM(P)	U:CNX(P)
@PDCE(P)	U:COP(P)	U:HUSA(P)	U:RICE(P)		U:FELP(P)
@REXX(P)	U:CPE(P)	U:KOS(P)	U:RMP(P)		U:GMO(P)
@RXDX(P)	U:CRC(P)	U:LNG(P)	U:ROYT(P)		U:GORO(P)
@TRCH(P)	U:CRK(P)	U:LPI(P)	U:RRC(P)		U:HCLP(P)
@USEG(P)	U:CWEI(P)	U:MCF(P)	U:SBR(P)		U:HL(P)
@VNR(P)	U:CVI(P)	U:MEP(P)	U:SDR(P)		U:LODE(P)
@WRES(P)	U:CVRR(P)	U:MPC(P)	U:SDT(P)		U:MGN(P)
@ZN(P)	U:CVX(P)	U:MRO(P)	U:SGY(P)		U:MUX(P)
30927H(P)	U:CXO(P)	U:MTDR(P)	U:SJT(P)		U:NEM(P)
32232W(P)	U:DK(P)	U:MUR(P)	U:SM(P)		U:NRP(P)
32803D(P)	U:DNR(P)	U:MVO(P)	U:SN(P)		U:SLCA(P)
410114(P)	U:DVN(P)	U:NBL(P)	U:SWN(P)		U:SWC(P)
77113C(P)	U:ECR(P)	U:NDRO(P)	U:SYRG(P)		U:SXC(P)
875762(P)	U:ECT(P)	U:NFX(P)	U:TEP(P)		U:SXCP(P)
U:ALDW(P)	U:EGN(P)	U:NOG(P)	U:TPL(P)		U:UAMY(P)
U:ALJ(P)	U:EGY(P)	U:NTI(P)	U:TPLM(P)		U:XPL(P)

Tickers are gathered from Datastream.

Appendix C: Figures to Robustness Test

Figure 2. Cumulative Abnormal Returns when the Dodd-Frank Act Passes Congress with a 39-day event window.

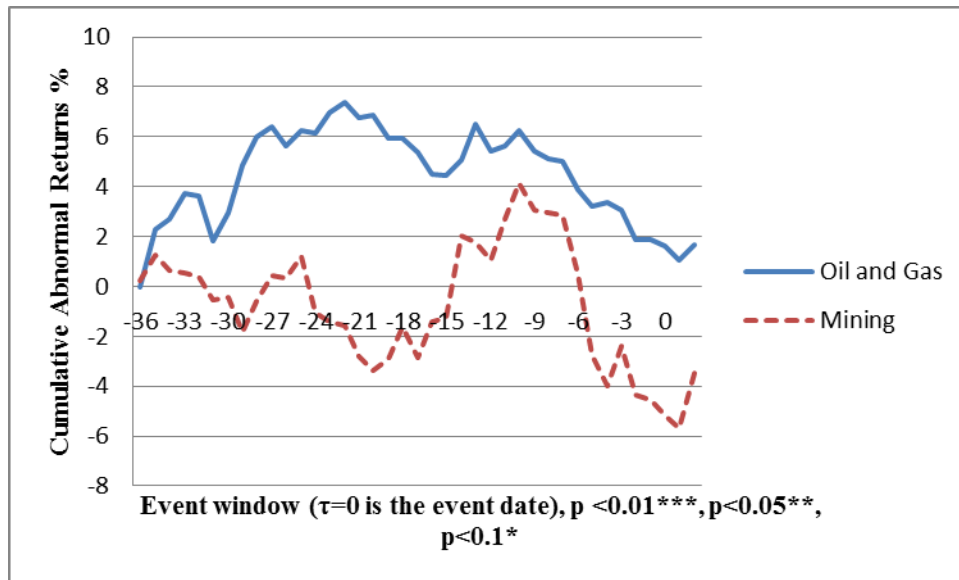


Figure 3. Cumulative Abnormal Returns when SEC Proposes Rules for Section 1504 with a 39-day event window.

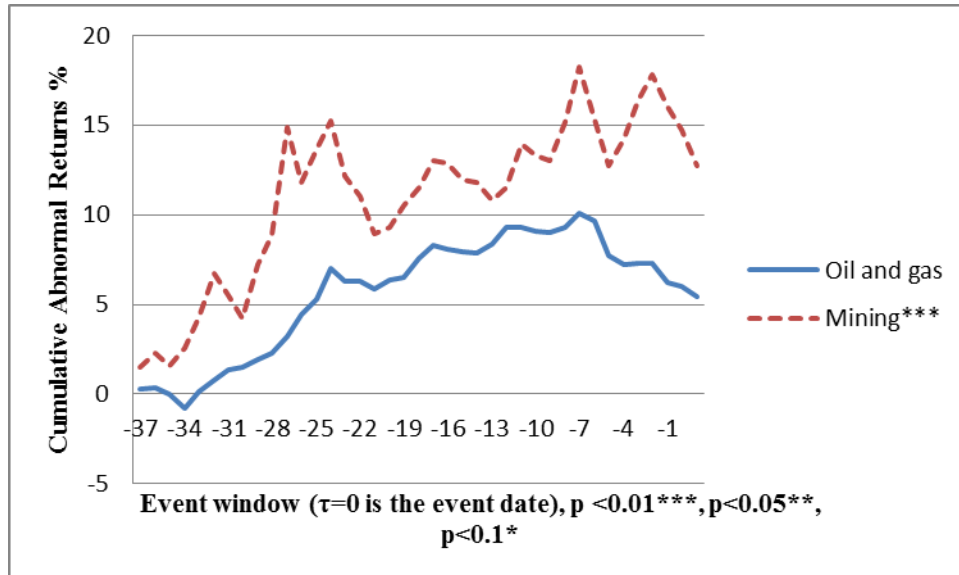


Figure 4. Cumulative Abnormal Returns when API *et al.* Files a Lawsuit Against the SEC with a 39-day event window.

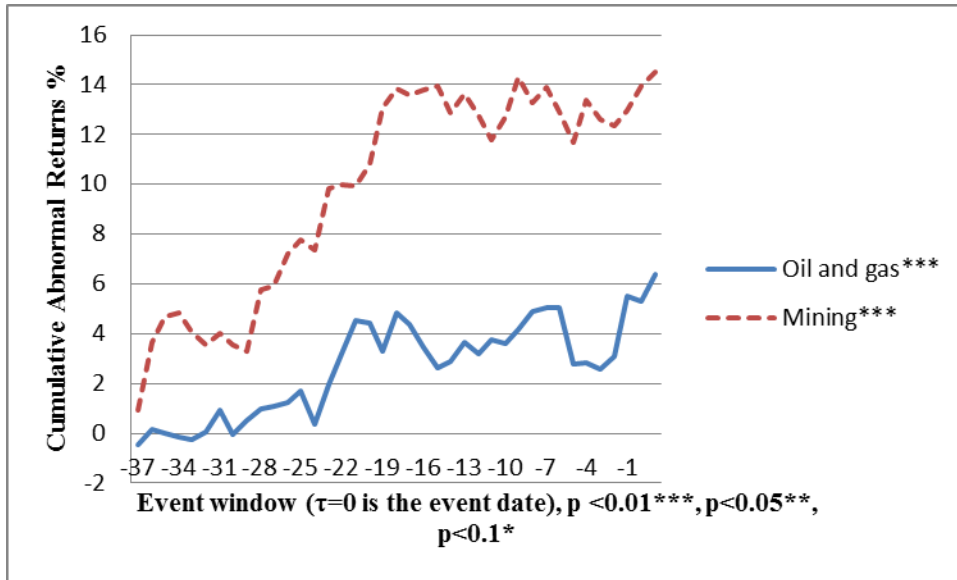


Figure 5. Cumulative Abnormal Returns when Section 1504 is Vacated with a 39-day event window.

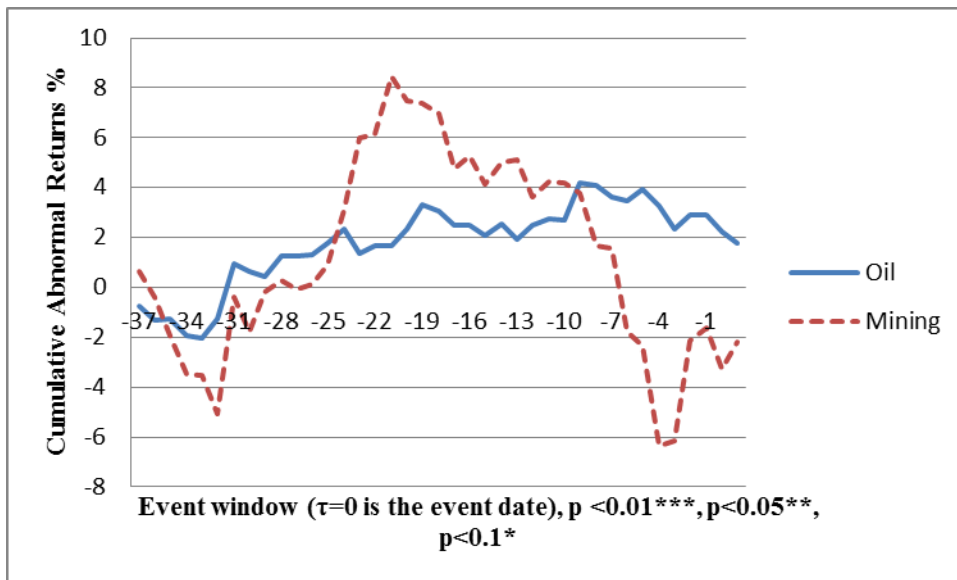


Figure 6. Cumulative Abnormal Returns when the SEC Proposes Revised Rules for Section 1504 with a 39-day event window.

