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The Consequences of Disclosure Regulation: Evidence from Dodd Frank 1502B

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The Humanitarian Consequences of Disclosure Regulation: Evidence from Dodd Frank 1502

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1. **Introduction**

The belief that sound ideology and pure motivations spur beneficial legislation is pervasive because this belief draws support from the hoi polio and gives policy makers the feeling of affecting positive change. In reality, if there is an asymmetry between the ideology and the construct validity of the legislation, the legislation could create a myriad of unintended consequences that could create a net negative. If every stakeholder is not included in legislation generation, unintended consequences seem inevitable. This paper discusses the unintended consequences of Dodd Frank 1502, specifically on the stakeholders within the Democratic Republic of the Congo and the surrounding countries, i.e. Central African Republic, Sudan, Congo Republic, Uganda, Tanzania, Rwanda, Burundi, Zambia, and Angola. Furthermore, this paper discusses if the Democratic Republic of the Congo and the surrounding countries are "better off" under this humanitarian motivated disclosure regulation.

Since 1998, six million people have died in the Democratic Republic of the Congo resulting from armed conflict among rebel militias; this stint of boundless violence is the deadliest since World War II and warrants international attention and aid. (Seay) Subsequently, the disastrous humanitarian condition of the Democratic Republic of the Congo has garnered international attention, especially from U.S. activist groups and senators, and a response to this violence was crafted. The Democratic Republic of the Congo (DRC) is considerably rich in minerals that are on the forefront of global demand, i.e. minerals integral in the manufacturing of phones, tables, and other electronic devices. Additionally, the DRC contains notable gold deposits. In some instances, these minerals have provided funding for ruthless warlords and rebel militias, and certain humanitarian advocacy groups refer to these minerals as "conflict minerals." In response to this humanitarian catastrophe and "resource curse" of the DRC, U.S. policy and advocacy groups crafted legislation which they believed would "cut off the funding to people who kill people." (Barney Frank, Co-sponsor of Dodd Frank 1502) According to this rule, "issuers with conflict minerals that are necessary to the functionality or production of a product manufactured by such person to disclose annually whether any of those minerals originated in the Democratic Republic of the Congo or an adjoining country. If an issuer's conflict minerals originated in those countries, Section 13(p) requires the issuer to submit a report to the Commission that includes a description of the measures it took to exercise due diligence on the conflict minerals' source and chain of custody." (SEC, Release No. 34-67716; File No. S7 40-10) These conflict minerals include tin, tungsten, tantalum, and gold. This inclusive and somewhat far reaching legislation incites a myriad of implementation complexities among U.S companies and unintended consequences for the DRC and the surrounding countries.

According to the SEC's 2012 Final Rule on Conflict minerals, congress outlined specific goals of their Dodd Frank 1502 legislation: (1) "to help reduce funding for the armed groups contributing to the conflict and thereby put pressure on such groups to end the conflict (2) "to bring greater public awareness of the source of issuers' conflict minerals and to promote the exercise of due diligence on conflict mineral supply chains." (3) "to promote peace and security in the Covered Countries." (SEC, Release No. 34-67716; File No. S7 40-10) To address Congress' first goal of reducing funding for armed groups contributing to conflict, in 2013 certain human rights advocacy groups claimed success: "the passage of conflict minerals legislation … [has] helped lead to a 65% drop in armed groups' profits from trade in tin, tantalum, and tungsten …" (Johnson 2013, p. 53). While there most likely was a decrease in profits from the trade of tin, tantalum, and tungsten, it is unclear if these profits were completely tied to “armed groups.” On September 5, 2014, *The Wall Street Journal* reported that “the U.S. government finally acknowledged Friday it cannot determine which refiners and smelters around the world are financially fueling violence in the war-torn Congo region… The Commerce Department published a list of more than 400 sites from Australia to Brazil and Canada, but said it “does not have the ability to distinguish” which are being used to fund militia groups.” Consequently, the creators and enforcers of this piece of legislation cannot determine where the violence is taking place, asserting a “guilt by geography” stance. (Whitaker, 2015) Additionally, this so-called reduction in usage of conflict minerals has a negative impact on the economic condition of the DRC and the surrounding countries, i.e. their mining sector. Many researchers and commentators have highlighted this consequence of Dodd Frank 1502, and many assert that Dodd Frank 1502 acts as a de facto embargo of Congolese minerals. (Woody, 2012-2013) Laura Seay asserts that this regulation and de facto embargo has left up to 2 million Congolese people unemployed, as their livelihood of artisanal mining disintegrated. (Seay) This de facto embargo not only puts roughly 2 million Congolese people of out work, but also opens the US to “regulatory arbitrage.” (Woody, 2012-2013) Recently China and Russia have leveraged this regulation by purchasing these conflict minerals and then reselling them to US corporations. (Woody 2012-2013). Congress’ next goal of raising public awareness and promoting the exercise of due diligence has technically been successful, since companies are now required to issue disclosures to the Securities and Exchange Commission, outlining if their supply chains include “conflict” tin, tantalum, and tungsten. These disclosure documents, form SD’s, are very costly to U.S. companies, inciting questions about their worthiness, e.g., Kraft Foods asserted that it has over 100,000 suppliers, and the due diligence to trace every single supply chain would not be feasible. (Lynch 2011) Lastly, Congress asserted that they wanted “to promote peace and security in covered countries." Integral to promoting peace and security is the reduction of violent conflict and specifically violent conflict deaths in the DRC and the surrounding countries. Additionally, positive economic conditions and opportunities promote peace and security. In my research, I show how Congress has not yet achieved their goal of promoting peace and security in the DRC and the covered countries, and highlight the economic and humanitarian consequences of Dodd Frank 1502 on the Congolese people and their neighbors.

In an effort to highlight the economic and humanitarian effects and unintended consequences of Dodd Frank 1502, I implement a quantitative/confirmatory research method where I examine the DRC and the Covered Countries. I test if this financial disclosure regulation truly has promoted "peace and security in covered countries." I employ this test by implementing a five step process: (1) I aggregate the DRC and the Covered Countries together because congress wanted to see these countries benefit from the legislation. As listed above, these Covered Countries include the Central African Republic, Sudan, Congo Republic, Uganda, Tanzania, Rwanda, Burundi, Zambia, and Angola. (2) I next test if violent conflicts, specifically violent conflict deaths, have reduced post Dodd Frank 1502; I also benchmark my results next to an African Index, including all African countries except the DRC and the Covered Countries. (3) I observe if the Congolese people and their neighbors have experienced greater economic security or growth post Dodd Frank 1502. (4) Subsequently, I test if U.S. firms have stifled foreign direct investment to the DRC and the Covered Countries as a result of Dodd Frank 1502, i.e. if Dodd Frank bolstered a de facto embargo of Congolese minerals. With the growing importance of Corporate Social Responsibility, I fear U.S. firms have left the mining sector of the DRC and Covered Countries to avoid being deemed guilty. (5) Lastly, I will be able to comment on the construct validity of Dodd Frank 1502, assessing the condition of the DRC and Covered Countries before and after the policy was officially implemented.

In 2010, Dodd Frank Consumer Protection Act was signed into federal law by President Barak Obama, and within that Act was section 1502, but the Securities and Exchange Commission did not enact a final ruling of Dodd Frank 1502 Conflict Minerals until 2012. The two years of quasi-regulation left U.S. firms unsure of implementation requirements and the regulatory environment. This delay in precision produced complexities for me as I chose the effective, official date of Dodd Frank 1502 for my research. I decided on 2012 for two specific reasons: (1) I assume there was an implementation lag of the effects of Dodd Frank 1502 (2) There is an asymmetry of information between the US government, US firms, and the Congolese people. Just as the fed works through an intermediary to implement its expansionary/ contractionary policy and experiences a time lag, I assume that the U.S. government through a disclosure regulation implemented a contractionary form of policy on the Democratic Republic of Congo and the surrounding countries and experienced that same time lag. Also, there is an asymmetry of information which further supports my decision to choose 2012 as my official date of Dodd Frank 1502. The Congolese people and their neighbors could not have prepared for this shock to their mining sector, because they were not actively involved the policy making. Muemba Phezo Dizolele, a Congolese native and US citizen of the Hoover Institution, in his testimony to the Committee of Financial Services of the House of Representatives even claims that "by failing to engage the Congolese in an honest dialogue on the relationship between conflict and mining, proponents of Section 1502 failed to spur a national ownership of the initiative through a true partnership with the Congolese." (M. Dizolele) Another example of this asymmetry is the name that many miners of the DRC and the Covered Countries call this U.S.

regulation, i.e. "Obama's Law." In Mr. Dizolele's words, "the U.S. Congress passed a legislation that ignores the will and agency of the Congolese people and imposes an outside solution to a problem that is best understood by the Congolese."

Through my quantitative study of economic and demographic indicators pre 2012 compared to post 2012 the results are evident and telling. My evidence suggests three findings that contribute to the ongoing discussion of the effectiveness of Dodd Frank 1502. First, my research suggests that deaths by violent conflicts have not decreased since Dodd Frank 1502 was put into place. Furthermore, deaths by violent conflicts have increased per year after congress and the SEC enacted 1502. My findings are supported by Dominic Parker and Bryan Vadheim's upcoming paper in the *Journal of the Association of Environmental and Resource Economists,* "Resource Cursed of Policy Cursed? U.S Regulation of Conflict Minerals and Violence in the Congo," when they assert that after Dodd Frank 1502 was put into place "the probability of civilian looting increased by at least 143%, and that increased the probability of battles." (Parker and Vadheim, 2016) My second finding is that Dodd Frank 1502 has not fostered economic security or growth in the DRC and the Covered Countries, i.e. per capita GDP growth has not risen in the DRC and the Covered Countries, but has rather decreased in the wake of Dodd Frank 1502. My last finding supports the assertion that U.S. firms have reduced sourcing minerals from the DRC and the surrounding countries because of a de facto embargo. I found that U.S. Foreign Direct Investment in the DRC and the Covered Countries has decreased post 2012, i.e. post Dodd Frank 1502.

The implications of my results are invaluable to a critique of the Conflict Minerals policy and will hopefully encourage a roll back of this humanitarian disclosure regulation. By no means should the terrible atrocities in the DRC and the Covered Countries be overlooked, but I believe that the Congolese and their neighbors deserve better policy making where unintended consequences are less prevalent. Nonetheless, Dodd Frank 1502 does not uphold construct validity because it does not consider every stakeholder meticulously. Action is warranted in the DRC and the Surrounding countries to promote peace and security, but in the case of Dodd Frank 1502, the actor is wrong, i.e. there is an agency problem. Mvemba Phezo Dizolele asserts this agency problem in his testimony before congress: "The U.S. Securities and Exchange Commission, which is entrusted with the implementation of this law, is not qualified to carry out such a task. The SEC has neither the expertise nor the money to conduct a cost and benefit analysis of the impact of Section 1502 on the Congolese and U.S. business." Per the website of the Securities and Exchange commission, the mission of the SEC is to protect investors, maintain fair; orderly; and efficient markets, and facilitate capital formation. Their mission is not to implement successful humanitarian regulation and reduce violence in Sub-Saharan Africa.

Through my research and findings, I hope I am able to contribute to current academic research and spur further research. Pursuant to current accounting research trends, I want my research to be built on a forward-looking theme, so that I may spur academics to research further on Dodd Frank 1502 and its unintended consequences. This further research could be used to provide clarity for policy and regulatory authorities. Furthermore, I contribute to academic research because quantitative cost-benefit analysis of disclosure regulation seems to be growing in popularity and importance. As regulators debate and assign costs to transparency, they ought to have a clear picture so that they can make informed decisions about policy. This clarity could also help regulators assign and measure costs of transparency in complex situations, e.g. places of civil or political unrest. Additionally, I encourage further research into the benefits of policy making that weighs every stakeholder equally. Lastly, my study contributes to academic research because it focuses on unintended consequences of policy and asymmetries of information among stakeholders. In my research, I show how an asymmetry of understanding and communication exists between the U.S. congress, U.S. firms, and the Congolese and their neighbors concerning Dodd Frank 1502, and this asymmetry warrants action and a policy reform.

2. Background

In an effort to better understand Dodd Frank 1502 and why it exists, it is integral to grasp a holistic view of the mining sector for these countries. According to the World Bank, in 2009 the mining industry made up 13.4% of GDP for the DRC. The Enough Project, an activist group which supports Dodd Frank 1502 fervently, also suggests that the DRC contributes 15-20% of the world's tantalum, 6-8% of tin, 2-4% of the tungsten, and less than 1% of the world's gold, i.e. mining for these minerals is integral to the economy of the DRC and most of the Covered Countries. A large contribution of the mining of the 3T's and G (tin, tungsten, tantalum, and gold) is linked to artisanal miners; key stakeholders in Dodd Frank 1502.

Artisanal miners from the DRC and the Covered Countries are employed independently, without official connection to professional mining operations. They tend to use their own tools with minimal technology, using motorbikes as their main vehicles to get to hard to reach zones of mineral deposits. Artisanal miners work to provide raw materials to around 280 large corporations, including Apple, BlackBerry, Boeing, and Motorola. (World Bank) Because these artisanal minerals are self-employed, they generally do not know what happens to the raw materials once they are sold, making traceability of these minerals very difficult. Additionally, it is difficult to measure the impact that Dodd Frank 1502 has had on artisanal mining; Laura Seay estimates that 1-2 million Congolese artisanal miners have been negatively affected by Dodd Frank 1502. (Seay) These artisanal miners do not have their previous source of income and in some cases, cannot provide the costs of tuition for their children to go to school. Bienfait Kabesha, a 16-year-old militia soldier, after being interviewed by U.S. activists, illustrates this problem: “If we were earning more money from mining, I (Kabesha) would not have entered the militia.” This example may be specific and support the “jumping to conclusions” bias, but it does provide an example of how artisanal mining provided a necessary source of income to many Congolese people. In some cases, these artisanal miners are providing funding to militia groups and warlords inciting violence in the DRC and the Covered Countries, but in other cases it is the primary source of income for families, especially in the eastern region of the DRC.

Dodd Frank 1502 has done some positive work in the Congolese and Covered Countries' mining sectors; it has spurred some successful traceability initiatives, bringing clarity and transparency to an industry that was previously completely unregulated. One traceability initiative that has stemmed from Dodd Frank 1502 is the iTISCi. According to its website, the iTISCi is “voluntary private sector initiative, understanding the importance of global markets, and trade opportunities, working hand in hand with Government services and international (Pact) and local NGO's to deliver capacity building and improved governance.” The main goal of the iTISCi is to “deliver the future of tin” through increased transparency in the origin countries and down the supply chain. (iTISCi website) In 2016, the iTISCi asserted that 99% of the tin in Central Africa was successfully traced allowing for conflict free African minerals to access markets. The iTISCi’s success can be attributed to its awareness and openness of every stakeholder involved in the mining of minerals. In an effort to provide successful traceability, private initiatives ought to be on the forefront of action and implementation of successful audits within the DRC and the Covered Countries.

To better grasp the implications of Dodd Frank 1502, it is also necessary to observe the specifics of the disclosure requirements and the actions that U.S. firms must undertake. Generally, pursuant to the SEC's 2012 final rule on Dodd Frank 1502, companies must present an opinion if any of the tin, tungsten, tantalum, or gold used in the manufacturing of their products "directly or indirectly financed or benefited armed groups" in the DRC or the Covered Countries. The SEC has outlined a three-step process for companies subject to present this opinion. The first step for companies is to determine if tin, tungsten, tantalum, or gold is "necessary to the functionality or production of a product manufactured or contracted to be manufactured by such a person." The 3T's and G are integral to the manufacturing of products in many industries, including but not limited to electronics, aerospace, automotive, industrial machinery, healthcare devices, jewelry, diversified industrials, and consumer goods. In 2011, KPMG asserted that Dodd Frank 1502 affects the reporting requirements of roughly half of the publicly traded companies in the United States. (KPMG) If a company is publicly traded and determines the 3T's and G are "necessary to the functionality or production of a product manufactured or contracted to be manufactured by such a person," then they must move to step two in the SEC's three-step process. Companies next must perform a reasonable country of origin inquiry (RCOI) of the Subject Minerals (tin, tungsten, tantalum, and gold) to determine if any of these materials were sourced or were scraped/recycled from the DRC or a Covered Country. If the Company finds reasonable assurance that the Subject Minerals did not originate from the DRC or the Covered Countries, then they must disclose this finding in their annual report, place this finding on their website, and maintain current records of future findings. If a company could not tell where the Subject Minerals were sourced or determined some Subject Minerals originated in the DRC or the Covered Countries, then they must perform step three in the SEC's three-step process, i.e. furnish a Conflict Minerals Report. To furnish this Conflict Minerals Report, companies must first provide a description of the measures it took "to exercise due diligence and chain of custody of its conflict minerals." Companies must use a recognized due diligence framework to provide this description, e.g. OECD Due Diligence Guidance on Responsible Supply Chains. They must also provide the name of the independent auditor that performed the private sector audit. Secondly, companies must provide a description of its product manufactured with the Subject Minerals, name these products, and determine the origin of the Subject Minerals with "greatest specificity" used to manufacture those products. This Conflict Minerals Report should be an exhibit to the official Form SD disclosed alongside the company's annual report. Based upon the information supplied to the company and their own due diligence efforts, the company must assert a determination in the Form SD if the Subject Minerals are not DRC conflict free or DRC conflict undeterminable. Companies may only claim DRC conflict undeterminable for less than two years (KPMG), which gives a strong reputational incentive to find conflict free Subject Minerals or to stop sourcing from the DRC and the Covered Countries completely. The SEC also provided additional details concerning the Final Rule on Dodd Frank 1502: (1) It exempts any conflict minerals prior to January 31, 2013 and (2) this form SD and Conflict Minerals Report must be provided each year by May 31, regardless of the issuer's fiscal year. To see examples of notable Form SD filings, see appendix #.

Hypothesis Development

To further develop my research question, I hypothesize two assertions concerning the construct validity of Dodd Frank 1502.

1. Dodd Frank 1502 has harmful economic consequences for the Congolese people and their neighbors, especially people working as artisanal miners.
2. Dodd Frank 1502 does not reduce violence in the DRC and the Covered Countries.

Concerning my first hypothesis, I estimate that Dodd Frank 1502 will economically harm the citizens of the DRC and the Covered Countries primarily through a de facto embargo that will be leveraged on tin, tungsten, tantalum, and gold sourced from the DRC and the Covered Countries. From the artisanal miners' standpoint, as this de facto embargo is slowly put into place, these miners will lose their primary income generation and essentially become unemployed. From a country-wide standpoint, I hypothesize that mining production of tin, tantalum, tungsten, and gold will stall as these minerals will be demanded less based solely upon their geography. From a U.S. company standpoint, these companies will start and maintain this de facto embargo as they determine the reputational and disclosure costs of sourcing the 3T's and G from the DRC and the Covered Countries completely outweigh the switching costs of sourcing these Subject Minerals from other countries. To expound further, a Tulane University economic impact assessment study found that the estimated total cost of implementation of Dodd Frank 1502 is 7.93 billion dollars, a material disclosure cost, compared with the SEC's initial implementation cost estimation of 71.2 million dollars. (Seay) I estimate that U.S. companies will implement the cost efficient and riskless strategy of completely halting sourcing of Subject Minerals from the DRC and the Covered Countries. Therefore, they, like congress, will assume a "guilt by geography" stance on these Subject Minerals, even if the minerals were sourced from conflict free Congolese mines. In reference to my second hypothesis, I predict that Dodd Frank 1502 will not successfully perform its purpose of reducing violence by fostering peace in the DRC and Covered Countries. Dodd Frank 1502 will not uphold construct validity primarily because it is a broad, top down approach to a specific problem that is best solved locally. The ideas and assertions of the Congolese people were not seriously considered during policy making, the primarily downfall of policy makers. Additionally, this policy does not put pressure on companies based in China or Russia to stop sourcing conflict minerals. Researchers even suggest that China and Russia have leveraged this regulation by purchasing these conflict minerals and then reselling them to US corporations, i.e. "regulatory arbitrage." (Woody 2012-2013) I lastly predict that the asymmetry of policy knowledge among the Congolese and Covered Country miners will foster chaos and even increased looting in the DRC's mining regions.

Methodology

$$\textbf{OUTCOME} = \alpha_o + \beta_1 \text{DRC\_country} + \beta_2 \text{DF1502} + \beta_3 \text{DRC\_country*DF1502} + \sum \beta_k \text{CONTROLS} + e$$

Per my model above, I present specific economic and demographic indicators as my outcomes, measuring these indicators before and after Dodd Frank 1502 was officially put in place, i.e. 2012. My dependent variables model three indicators to observe the economic consequences of Dodd Frank 1502 and to measure the ability of Dodd Frank 1502 to "promote peace and security in the Covered Countries." My indicators are (1) Gross Domestic Product Per Capita Growth, (2) U.S. Foreign Direct Investment Outflows into Africa and the Covered Countries, and (3) Deaths by Armed Violent Conflict in the DRC and the Covered Countries. I implement these indicators as outcomes in the above model and observe the results to comment on Dodd Frank 1502.

The first indicator that I observe is Gross Domestic Product Per Capita Growth (GDP per capita growth). This indicator is a weighted average of Gross Domestic Product per mid-year population with an annual periodicity, based on constant 2010 U.S. dollar amounts. Pursuant to the World Bank, Gross Domestic Product is the "sum of gross value added by all resident producers in the economy plus any product taxes minus any subsidies not included in the value of the products." (World Bank) I observe this indicator per population to highlight the Congolese people and their neighbors. Mining is an integral facet of the economies of the Covered Countries, e.g. according to the U.S. Geologic Survey, in 2009 mining was 13.4% of GDP in the DRC and has been an important wealth generator since colonial times. My data originates from the World Bank and is a complete data set of GDP per capita growth in the Covered Countries and all of Africa from 2006 to 2015, excluding 2006 to 2008 for the South Sudan and 2006 to 2015 for Somalia. To control for validity, I have first taken yearly population measurements into account. Secondly, I have controlled for crude oil production, a dominate industry in Sub-Saharan Africa's economy, e.g. in 2015 crude oil production accounted for 45% of GDP in Angola.

The second indicator of interest is U.S. Foreign Direct Investment (FDI) Outflows to African countries and the aggregate of Covered Countries. FDI outflows are investment outflows from a non-resident country into a foreign country with a yearly periodicity in millions of U.S. dollars. FDI is an important measurement because it is an important vehicle for growth inside the receiving country, especially when the host country has industries that are heavily dependent on human capital. (Borensztein) Since mining, especially artisanal mining, relies on human capital heavily, FDI is an important measure. I measure U.S. Foreign Direct Investment (FDI) Outflows because I want to observe if there was a decline in U.S. firm level investment after congress put Dodd Frank 1502 into place, i.e. if U.S. firms decided that reporting costs and the reputational risk of sourcing from the Covered Countries outweigh their investment horizons in the Covered Countries. Another reason I measure FDI outflows is to test the notion of "regulatory arbitrage." (Woody 2012-2013) As a conduit, I observe China's FDI outflows into African Countries because of the enormous sizes of FDI outflows China makes into Africa and because China has the second largest economy in the world. My FDI Outflows data into African countries comes from the John Hopkins School of Advanced International Studies' China Africa Institute, where they observe FDI outflows from the U.S. and China into Africa. I plan to control for the lasting effects of the global financial and economic crisis of 2008 on FDI outflows. I also plan to control for the receiving countries' inflation and openness of economy, key determinants in FDI inflows. (Onyeiwu)

The last indicator that I observe is Deaths by Armed Violent Conflict in the DRC and the Covered Countries. This indicator is an aggregate yearly number of deaths in the DRC and Covered Countries by violent conflicts with armed actors. The original unit of analysis of the disaggregated data is a violent event occurring on a specific date and at a specific location (longitude/latitude) These violent events are recorded from media reports; consequently, there is a risk of measurement error, but in most cases not material. This data comes from the Armed Conflict Location and Event Data Set (ACLED) which is a prevalent data set already used in many research papers. I observe this indicator to test if Dodd Frank 1502 has truly promoted peace and stability by reducing violent deaths and conflicts in the Covered Countries.

Descriptive Statistics

Table 1 presents univariate statistics separately for countries affected by Dodd Frank 1502, *DRC Countries*, and the remaining African countries not affected by Dodd Frank 1502, Non DRC countries. To identify Dodd Frank 1502's effect on its African stakeholders, I aggregated two groups based on time series. Panel A uses a subsample of observations from the Pre-Dodd Frank 1502 period, 2008-2010; panel B utilizes a subsample of observations from the Post-Dodd Frank 1502 period, 2010-2014.The mean US Foreign direct investment for DRC countries in Panel A was 97.13889 million dollars, while it was -334.889 million dollars in Panel B. Also notable was the Mean aggregate violent deaths in Panel A, 643.47722 deaths, compared to the aggregate violent deaths in Panel B, 903.8889 deaths. Interestingly, For the Non DRC countries in Panel A and Panel B, the mean of US Foreign Direct Investment increased after Dodd Frank was put into place, while the DRC countries experienced a decrease.

[Insert Table 1 about here]

Table 2 presents the correlations between the variables. The numbers in the table represent Pearson correlations. US Foreign Direct Investment into Africa is significantly correlated with International Reserves, 0.1319. U.S. Foreign Direct Investment into Africa is also significantly correlated with the countries control of corruption, percentage rank, 0.06566. Also Notable is the correlation between Aggregate violent deaths and political stability, percentage rank, -0.4113, along with Aggregate violent deaths correlation with the countries control of corruption, -0.3251. The simple descriptive statistics do not contain the control variables specific to violent conflict deaths in a country and U.S. Foreign Direct Investment Inflows into Africa; consequently, I only draw results from the regression analysis and not from the descriptive statistics.

[Insert Table 2 about here]

Regression Analyses

Panel A of Table 3 shows the estimation of the results from the regression with Aggregate Deaths by Violent Conflict. The coefficient on DRC_DF1502 is not significantly related to coefficient on Agg_violent_deaths, i.e. there is not statistical significance that Dodd Frank 1502 had a direct impact on the increase of deaths by violent conflict. The coefficient of DRC_DF1502 is positive but insignificant (0.9263), but it is significantly more positive than the DRC variable (0.2179), the affected countries before Dodd Frank 1502 as put into place. An interesting finding was that the GDP_growth coefficient showed statistical significance.

[Insert table 3 about here]

Panel B of Table 4 shows the estimation of the results from the regression with U.S. Foreign Direct Investment Inflows to Africa (USFDItoAfrica). The coefficient of DRC_DF1502 in Panel B was statistically significant (0.0739), which supports the claim of many Dodd Frank 1502 critics that this regulation has deterred funding from the Democratic Republic of the Congo and the surrounding countries. This finding further supports my claim that Dodd Frank 1502 has incited a de facto embargo on minerals sourced from the Congo and the surrounding countries.

[Insert table 4 about here]

Additional Results

Table 5 shows the industry distribution of firms that are subject to the conflict minerals disclosure regulation. Utilizing the Fama French 48 Industry Classification, 47 of the 48 classifications had at least one firm that was subject to the disclosure regulation. Electronic Equipment was the industry classification with the most conflict minerals filers and accounted for 16.91% of all companies filing conflict minerals reports. 1396 companies are Conflict Minerals (SD) filers, and On August 8, 2016, JP Morgan Asset Management reported that in June of 2016 there were 4,333 companies publicly traded companies. More than 25% of the publicly traded companies in the United States are subject to this disclosure regulation.

[Insert table 5 about here]

Table 6 shows the mean cumulative abnormal returns around form SD filing dates for companies subject to this disclosure. Public companies subject to form SD disclosures were given a two-year period to adequately prepare their initial Reasonable Country of Origin Inquiry; consequently, 2014 was the first year companies filed form SD disclosures. Utilizing the mean market model and mean market adjusted model, I found that in 2014 65% of filers experienced significant abnormal returns. (-1.09%) I used a three day measuring window, one day before the filing date and one day after the filing date.

[Insert table 6 about here]

Table 1

Descriptive Statistics before and after Dodd Frank Section 1502

Variable	DRC Countries			Non DRC countries		
	N	Mean	Std. dev.	N	Mean	Std. dev.
Panel A: Pre DF 1502						
Agg_violent_deaths	36	643.4722222	1379.2	157	220.433121	692.6783236
US_FDI_Africa	36	97.1388889	366.1213033	179	138.7932961	676.8597574
Population	36	18524539.5	24631911.25	176	19262450	28008632.25
Refugee_pop	36	91328.25	73246.87	147	45284.89	92001.42
Control_Corruption_PRank	36	22.7563959	19.964039	178	34.2572443	21.6087076
Political_Stability__PRank	36	23.5524393	20.8510667	177	36.4982083	22.6180978
GDP_Growth	36	2.9738	2.718	175	1.392	6.3021
Inflation_pct	36	10.1575263	5.7785461	165	7.2783645	7.8713817
CPI_rank	36	143.8888889	33.6569057	176	110.7045455	37.9893697
International_Reserves	28	94.6433671	3303.99	151	377.2481158	4486.37
Control_Corruption_PRank	32	21.0508906	20.501665	96	31.6233499	18.3939926
Panel B: Post DF 1502						
Agg_violent_deaths	27	903.8888889	1658.83	120	500.4583333	1466.06
US_FDI_Africa	9	-334.888889	1003.54	44	224.75	752.1065958
Population	27	20355374	26726641.83	129	21427923.96	31005906.73
Refugee_pop	27	92696.7	90880.01	121	66550.52	134041.07
Control_Corruption_PRank	27	20.8286919	23.0957098	135	31.8083624	21.6090208
Political_Stability__PRank	27	23.3967754	19.9631903	135	32.0452261	21.6382017
GDP_Growth	27	1.0336	8.2033	129	2.59945	10.879745
Inflation_pct	9	12.4385289	10.3574301	42	7.7028577	7.8931344
CPI_rank	9	134.5555556	40.4231095	43	105.7674419	36.7143654
International_Reserves	7	520.1991553	1872.35	39	596.4448644	3794.42
Control_Corruption_PRank	8	21.0900471	25.8171127	24	30.5294035	18.6086691

This table shows the descriptive statistics. The sample period is January 2008 to December 2014 for Aggregate Violent Deaths and January 2008 to December 2012 for US FDI flows to Africa. Panel A uses a subsample of observations from the pre-DF 1502 period (January 2008-December 2010); Panel B uses a subsample of observations from the post-DF 1502 period (January 2010 to December 2014). In all panels, the first column reports results for countries affected by DF 1502 regulation; the second column uses a subsample of African countries not affected by DF 1502.

Table 2
Correlation Matrix

	1	2	3	4	5	6	7	8	9	10
1. Agg_violent_deaths		-0.05	0.44	0.15	-0.33	-0.41	-0.15	0.02	0.06	0.01
2. US_FDI_Africa			-0.05	0.00	0.07	-0.01	-0.01	0.04	-0.03	0.13
3. Population				0.30	-0.18	-0.41	0.07	0.03	0.07	0.04
4. Refugee_pop					-0.25	-0.35	0.02	-0.07	0.10	0.02
5. Control_Corruption_PRank						0.68	0.07	0.01	-0.18	0.01
6. Political_Stability__PRank							0.05	0.13	-0.24	-0.03
7. GDP_Growth								-0.05	-0.08	-0.02
8. Inflation_pct									0.12	-0.02
9. CPI_rank										0.01
10. International_Reserves										

This table shows the correlations between the variables. Pearson correlations are reported.

Table 3
Aggregate Deaths by Violent Conflict

Panel A: Aggregate Deaths by Violent Conflict (Agg_violent_deaths)	
Variables	
DRC	0.2179
	(1.23)
DF1502	0.1849
	(1.33)
DRC_DF1502	0.9263
	(0.09)
Refugee_pop	0.6301
	(0.48)
Control_Corruption_PRank	0.1921
	(-1.31)
Political_Stability__PRank	<.0001
	(-4.2)
GDP_growth	0.0059
	(-2.77)
Intercept	<.0001
	(5.92)

Panel A test the relation between Aggregate Deaths by Violent conflict and the implementation of Dodd Frank 1502 on the affected countries. The column uses observations for the DRC countries before Dodd Frank 1502 was put into place and after Dodd frank 1502 was put into place. T-statistics are reported in parentheses, ***, ** And, * refer to significance at the 0.01, 0.05, and 0.10 level (two-sided test), respectively.

Table 4
US Foreign Direct Investment Inflows

Panel B: US Foreign Direct Investment Inflows to Africa (USFDItoAfrica)

Variables	
DRC	0.4673
	(-0.73)
DF1502	0.4955
	(0.68)
DRC_DF1502	0.0739*
	(-1.8)
_Inflation_pct	0.3585
	(0.92)
International_Reserves	0.0074*
	(2.72)
Control_Corruption_PRank	0.2462
	(1.17)
Political_Stability__PRank	0.0145
	(-2.48)
GDP_growth	0.7219
	(-0.36)
Intercept	0.2341
	(1.2)

Panel A test the relation between US foreign direct investment into the African countries affected by Dodd Frank 1502 and the implementation of Dodd Frank 1502. The column uses observations for the DRC countries before Dodd Frank 1502 was put into place and after Dodd frank 1502 was put into place. T-statistics are reported in parentheses, ***, ** And, * refer to significance at the 0.01, 0.05, and 0.10 level (two-sided test), respectively.

Table 5
Industry Distribution of Conflict Minerals Filers

Conflict Minerals (SD) Filers (N=1396)

Industry Code	Industry Description	N	% of Total
1	Agriculture	2	0.14%
2	Food Products	3	0.21%
3	Candy & Soda	0	0.00%
4	Beer & Liquor	2	0.14%
5	Tobacco products	4	0.29%
6	Recreation	14	1.00%
7	Entertainment	7	0.50%
8	Printing and Publishing	7	0.50%
9	Consumer Goods	37	2.65%
10	Apparel	34	2.44%
11	Healthcare	8	0.57%
12	Medical Equipment	105	7.52%
13	Pharmaceutical Products	45	3.22%
14	Chemicals	41	2.94%
15	Rubber and Plastic Products	13	0.93%
16	Textiles	5	0.36%
17	Construction materials	40	2.87%
18	Construction	10	0.72%
19	Steel Works Etc.	38	2.72%
20	Fabricated Products	6	0.43%
21	Machinery	106	7.59%
22	Electrical Equipment	56	4.01%
23	Automobiles and Trucks	57	4.08%
24	Aircraft	18	1.29%
25	Ship Building, Railroad Equipment	9	0.64%
26	Defense	9	0.64%
27	Precious Metals	2	0.14%
28	Non-Metal and Industrial Metal Mining	3	0.21%
29	Coal	4	0.29%
30	Petroleum and Natural Gas	29	2.08%
31	Utilities	9	0.64%
32	Communication	18	1.29%

Table 5 Continued

33	Personal Services	5	0.36%
34	Business Services	74	5.30%
35	Computers	88	6.30%
36	Electronic Equipment	236	16.91%
37	Measuring and Control Equipment (Lab)	69	4.94%
38	Business Supplies	20	1.43%
39	Shipping Containers	9	0.64%
40	Transportation	8	0.57%
41	Wholesale	39	2.79%
42	Retail	75	5.37%
43	Restaurants, Hotels, Motels	6	0.43%
44	Banking	2	0.14%
45	Insurance	2	0.14%
46	Real Estate	1	0.07%
47	Trading	6	0.43%
48	Other	15	1.07%

This table shows the industry distribution of companies that are subject to Conflict Mineral disclosure requirements under Dodd Frank 1502. The industry code relates to the Fama French 48 Industry classification obtained from Ken French's website. The N column is the number of firms within the industry that are subject to Conflict Minerals disclosure requirements.

Table 6
Mean Cumulative Abnormal Returns Around Form SD Filing Dates

Event Window	N	N (%) Negative Abnormal Returns	Mean Market Model CAR	Patell Z	Mean Market Adjusted CAR	Patell Z
2014 - Initial Year Filing, Can Designate Products as "Conflict Undeterminable"						
(-10, -2)	1,190	595 (50%)	0.24%	0.121	0.84%	2.899 ***
(-1, +1)	1,190	777 (65%)	-1.09%	-9.783 ***	-0.93%	-8.677 ***
(+2, +10)	1,190	541 (45%)	0.79%	4.579 ***	1.29%	6.844 ***
2015- Second Year Filing, Can Designate Products as "Conflict Undeterminable"						
(-10, -2)	1,169	623 (53%)	-0.19%	-0.858	-0.28%	-0.962
(-1, +1)	1,169	557 (48%)	0.27%	1.733 **	0.20%	1.501 **
(+2, +10)	1,169	481 (41%)	1.19%	5.845 ***	1.04%	5.606 ***
2016 - Third Year Filing, ***Cannot*** *Designate Products as "Conflict Undeterminable"*						
(-10, -2)	1,139	507 (45%)	0.79%	4.563 ***	0.99%	4.428 ***
(-1, +1)	1,139	508 (45%)	0.36%	3.660 ***	0.43%	3.372 ***
(+2, +10)	1,138	526 (46%)	0.32%	1.837 **	0.42%	1.837 **

This table presents average cumulative abnormal returns in various windows surrounding the initial and subsequent year filing of Form SD for firms with nonmissing stock return data. Event day 0 corresponds to the date on which the firm filed Form SD with the SEC. Thus, the event window for the filing date corresponds to the window designated as (-1, +1). ***, **, and * denotes statistical significance from a one-tailed test at the 1, 5, and 10 percent levels, respectively.

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