

The Extractive Industries Transparency Initiative (EITI) and trust in politicians

Abstract

This study examines the role of a long-standing international transparency scheme known as the Extractive Industries Transparency Initiative (EITI) in helping build trust in politicians. In doing so, it presents the first known econometric investigation studying the relationship between the EITI and trust. It uses a novel instrument exploiting the variation in neighbouring countries' EITI participation to control for the endogenous nature of one's own EITI involvement. The basis of this instrument reflects on a broader literature concerning the historic influence of policy borrowing in the geographical diffusion of public policies. The results show a positive relationship between countries' EITI membership and trust in politicians. In particular, estimates offer consistent evidence of significantly improved levels of trust among members that are compliant with the EITI's transparency standards.

Keywords: EITI; Transparency; Trust; Extractive Industries; Natural Resource Management

JEL classification: O13; O17; Q38

1. INTRODUCTION

Drawing on the philosophical underpinnings of John Steinbeck's¹ 1947 novel *The Pearl*, Kolstad and Wigg (2012) formalised the 'Pearl Hypothesis'. The *Pearl Hypothesis* argues that the pressure of socially dysfunctional political behaviour, caused by the contestation of natural resource wealth, can negatively affect trust in societies. While empirical research has continued to improve our understanding of the formation of political distrust surrounding natural resources (particularly noting the exacerbating effects of conflict and corruption), it also highlights that limited evidence exists concerning how public policies might support state-society relations affected by this issue (Ishiyama et al., 2018; Acemoglu et al., 2018; and Armand et al., 2019). This paper aims to start to address this gap in the literature by examining the role of a leading and long-standing international transparency scheme in the extractives sector, known as the Extractive Industries Transparency Initiative (EITI), in helping to build trust in politicians.

To provide some context to this issue, the EITI is globally recognised as a hallmark transparency scheme in the extractive sector. It requires that member countries adhere to international 'rules' on financial and contractual disclosure standards. This includes disclosure from both companies and governments on issues such as the value of financial transactions between the two entities. It also requires they maintain a national multi-stakeholder group comprising of private, public, and civil society representatives (to promote stakeholder dialogue). The initiative ensures members adhere to its standards by obliging each country to undertake an independent assessment verifying their compliance (Sovacool et al., 2016)². Since its inception in 2003, the EITI has received commitments to implement its standards from 53 countries and 42 are currently verified compliant with its guidelines (EITI, 2019). The length

¹ 1962 Nobel prize award winner in Literature.

² Details of the various disclosure requirements are provided here: <https://eiti.org/document/standard>

of time taken for countries to become fully-fledged members has proven significant. After making a public commitment to the initiative, it has taken them, on average, 17 months to become registered as formal candidates. Following this, it has then taken them approximately a further four years to fully comply with the initiative's standards (Lujala, 2018)³.

While Carter (2013) describes that historically development interventions have rarely presented trust-building as an objective, the EITI provides an interesting policy in this respect. Despite little mention in the EITI's formal project documents, and not featuring explicitly within the initiative's core principles⁴ (which instead focused on factors such as improving accountability, economic growth, and the business environment), building public trust has formed a key aspect of the initiative's impetus for many stakeholders (Okpanachi and Andrews, 2013 and Short, 2014). This motive arose, in part, from the desires of companies in the extractive sector to use international disclosure standards to appear as socially responsible actors (despite often operating in highly corrupt countries) (Gillies, 2010). However, government officials also saw the role the EITI may play in increasing confidence in public management. For instance, Eigen (2009) describes the motivation of Zambian officials to join the initiative to address common misconceptions about public deals with companies in the extractive sector. Here it is thought participation in the initiative may help to dislodge perceptions that public officials work in cahoots with private companies to misappropriate public wealth. For example, to start with, EITI disclosures may help to verify that funds from public deals have been properly accounted for (Short, 2014).

This trust-building objective has seen increasing attention among the EITI's stakeholders in recent years. While the initiative stems from the idea that disclosure may help

³ Following validation of their compliance, countries are required to re-validate their compliance periodically, at least every 3 years. Further details of the joining and verification process are available here: <https://eiti.org/join-EITI>.

⁴ The EITI's principles are outlined here: <https://eiti.org/document/eiti-principles>

in delegitimizing companies international dealings with corrupt governments, a shift in thinking has largely seen the EITI become an instrument perceived to help governments gain the trust of their citizens (Le Billion et al., 2020). This builds on the premise that governments evidencing their integrity, or indicating they are willing to open up and forgo international scrutiny to address known problems of entrenched corruption, may increase public confidence in the governance of the sector. In conflict-torn Liberia, President Ellen Johnson Sirleaf further identified improving trust as one of the EITI's key outcomes (Rich and Warner, 2009). Meanwhile, Sven Ulrich Renner (Program Manager for the World Bank's Extractives Global Programmatic Support Multi-Donor Trust Fund) also reiterates that building trust forms one of the initiatives most important features (EITI, 2018). The increasing salience of this issue has consequently encouraged the EITI to bring it to the foreground of its programme identity. A re-branding project displaying the phrase "Open data, build trust" has now featured in the EITI's published media since 2019.

Yet, beyond offering a leading example of a development intervention with public trust-building motives at the core of its rationale, the EITI also provides an interesting transparency intervention to investigate compared to others previously studied. Existing evidence examining public trust and transparency interventions in the extractive industries largely focus on short-lived interventions (mostly involving relatively modest degrees of stakeholder interaction) (e.g. see Armand et al. 2019 and Coleman et al., 2019). Broader theory on the dynamics of trust, however, highlights that it is an intangible form of capital that takes time to accumulate as partnerships and relationships evolve (Lewicki and Wiethoff, 2000 and Drescher et al. 2014). For instance, it may be that trust develops with consistent signs of intent and interactions between stakeholders. The EITI, therefore, offers an interesting intervention given that its lifespan is long-term and continuous. It also requires public commitments (i.e. signals of intent) from high-level government officials and it encourages regular and consistent stakeholder

dialogue over time (e.g. through regular dissemination of information and via the national multi-stakeholder groups).

Using data from the World Economic Forum, this analysis contributes the first known quantitative investigation studying the relationship between the EITI and trust. Featuring econometric analysis applying fixed- and random-effects regressions, it examines the relationship between trust and the EITI following different stages of participation in the initiative (i.e. initial commitment, candidature, and full compliance). It also uses an instrument measuring the variation in neighbouring countries' EITI participation to control for the endogenous nature of one's own EITI involvement. The basis of this instrumental variable reflects on the growing body of research concerning the influence of policy borrowing in the geographical diffusion of public policies (Walker, 1969; Simmons and Elkins, 2004; and Simmons et al., 2006).

Overall, its findings show a positive relationship between EITI membership and trust in politicians. In particular, the results highlight consistent evidence of significantly improved levels of trust among countries that are compliant with the EITI's international transparency standards. This paper continues in Section 2 with a review of the synergies linking natural resources, transparency, and trust. The empirical analysis is then presented in Section 3. This includes a more detailed description of the data and estimation strategy, as well as the results of the analysis. Finally, Section 4 further discusses these findings and provides some concluding remarks concerning policy and future research.

2. NATURAL RESOURCES, TRANSPARENCY, AND TRUST

Historically many prominent economists, such as Jacob Viner (1952), Arthur Lewis (1955), and Walter Rostow (1961), conceived that economies extracting natural resources should benefit financially from improved capital flows and public revenues. Miller (2015)

further highlights that these positive economic benefits should increase trust in public leaders given that the economy is an important determinant of political trust. However, following the predictions of the Pearl Hypothesis, empirical research now shows that public distrust is more likely to form in countries engaged in extracting natural resources (Kolstad and Wigg, 2012 and Ishiyama et al., 2018).

Largely, explanations consider that this phenomenon may relate with a broader literature dedicated to the *Political Resource Curse*. Research on the Political Resource Curse suggests that the large public revenues arising from extractive activities may incentivise rent-seeking behaviour (Armand et al., 2019). Politicians, for example, may become more interested in securing political power and pursuing corrupt and inefficient policies using these revenues for their private gain (Robinson et al., 2006). This became particularly apparent among the events eventually leading to the creation of the EITI (such as those in Angola where the private oil companies were found complicit in assisting politicians to plunder public assets during its civil war in the 1990's – see van Alstine, 2017). Some highlight these issues have further exacerbated local political conflicts in many contexts and perpetuated perceptions that public leaders and extractive companies act in illicit cahoots (Aaronson, 2011; Arellano-Yanguas, 2011; Orihuela et al., 2019). Others consider the implications this may have on creating a vicious cycle increasing social inequalities, ethnic divides, and even reigniting armed conflict in post-conflict transitions (e.g. see Le Billion, 2014).

Yet, for many, the negative externalities caused by natural resource extraction are not inevitable. In recent years a more critical understanding of the role of the extractive industries in international development conveys that institutional and social issues surrounding natural resources may be mitigated (Stevens et al., 2015; Lahn and Stevens, 2017; Dietsche, 2017). Driven by a combination of internationally high-profile cases of corruption during the 1990s and early 2000s, this line of thinking has been a key factor determining the rise of a

transparency agenda led by the EITI over the past two decades in the extractive sector (Short, 2014 and van Alstine, 2017).

Following years of informational opacity in countries' extractive industries, the EITI's advocates hypothesise it may improve trust in public leaders by diluting information asymmetry and preventing publicly damaging cases of corruption where transparency discourages it (Aaronson, 2011; Gillies and Heuty, 2011; Sovacool et al., 2016). Magno and Gatmaytan (2017) further explain that, by providing a platform for different actors in the sector to work together and increase communication (e.g. via the initiatives multi-stakeholder groups), the EITI may help to build a culture of open dialogue surrounding the management of natural resources. This deliberation mechanism may also act as an alternative form of transparency enabling stakeholders to ask questions and obtain greater clarity about the information disclosed. Where greater disclosure helps to remove barriers to oversight, it is considered the EITI may increase confidence in the public system of management (Okpanachi and Andrews, 2013). Alternatively, it may also help to rectify (or prevent the incidence of) potentially damaging misunderstandings or misconceptions about public dealings in the sector (Eigen, 2009).

Beyond this, Bebbington et al. (2017) highlight the influence of the EITI on the policy environment. They find the politics surrounding transparency in the extractive sector has typically been less susceptible to changes in the national political landscape among EITI members in the Andes. This consistency may be, at least in part, motivated by the publicity otherwise caused in retracting (or failing) to meet the governments EITI commitments. This implies a broader point concerning the outward political appearance EITI membership may send to the public. While members motives for joining the initiative are commonly considered economic (e.g. to help attract foreign investment and aid – Lujala, 2018), EITI commitments may also act as public displays symbolising a political will to embrace good governance (Öge,

2016). Such public signals may encourage trust in public leaders, as may more consistent policy messages conveyed across time (e.g. see Majone, 1996).

However, these views are not uncontested. de Regt (2015) argues that transparency relates to surveillance and that it reinforces the cycle of suspicion rather than promotes trust. For example, in the events leading to the EITI's creation, an exposé of corruption in Angola by Global Witness (1999) highlighted a central set of characters who may have been responsible for misappropriating Angola's oil revenues. It was considered that the exposure of information related to the corrupt acts of states political elites would tarnish confidence in these individuals and may even motivate changes in political regimes. In this respect, some may have conceived that financial discrepancies evidenced through the EITI's disclosure activities could also lead the public to distrust public officials.

A discussion by Short (2014) notes, though, that a key aspect of the thinking surrounding the initiative assumes increased transparency will help to improve trust, not erode it. A similar view is also conveyed at the start of the Global Witness (1999) report 'A crude awakening'. This shared British Minister of State Peter Hain's argument that greater public transparency would lead to a more peaceful and stable Angola. It illustrates the broader point that disclosure might be more than an instrument used to delegitimize companies' international deals with governments. While disclosure may evidence corruption (which in many instances may already be suspected or perceived a problem), an EITI commitment may also signal the government's willingness to be more open with its public and forgo scrutiny. It is important to note, therefore, that enhanced transparency may not simply act as an instrument to detect corruption. It may also offer a more positive role in building integrity and confidence in the oversight of public officials. This assumes the nature and avenues through which information is exposed determines public responses to evidence of financial discrepancies.

To add to this point, Short (2014) further provides an example where the work of the EITI uncovered nearly \$10 billion of missing revenue payments in Nigeria. These discrepancies included missing tax payments, as well as payments that simply cannot be traced. Andrews and Okpanachi (2020) offer context here with an account describing the potential role of the EITI in Nigeria; highlighting low levels of transparency exists even concerning how much oil the country produces. Despite evidencing some sizeable financial problems in Nigeria's public management system, Short (2014) argues the EITI's disclosure process has improved public trust by increasing understanding of the regulatory loopholes that exist and the issues that need to be addressed (which may have otherwise remained unknown). In other words, this has heightened expectations that the country is moving towards dealing with the entrenched problems of corruption among Nigeria's political elite (an issue further discussed by Andrews and Okpanachi, 2020). This also reflects a survey carried out in Abuja (the Federal Capital) by Ozohu-Suleiman (2016) showing that public opinion views the EITI process as having helped to improve Nigeria's financial management in the oil sector. Meanwhile, McDevitt (2017) highlights the Nigerian government has begun to recoup some of the missing funds.

Yet, other issues raised about the EITI often question the fidelity of its requirements. Here critics regularly draw attention to the susceptibility of the initiative to 'mock compliance'. This implies that the EITI enables governments to appease the international community without inducing meaningful changes (Öge, 2016). One example of an issue that may contribute to these practical limitations is that governments can select members making up the multi-stakeholder group. This may limit the extent of critical public engagement where they appoint favourable representatives to the group. Another issue of concern is that in many contexts company reporting to the EITI remains voluntary. Reconciliation of company and government reporting, consequently, may not provide complete information (Fenton Villar, 2019).

Some recent (albeit few) studies have further examined the potential role of transparency in the extractive industries in building public trust. A recent randomised experiment by Coleman et al. (2019) examines whether multi-stakeholder forums in the oil and gas sector increased participants' trust that decision-makers share important information with the public in Western Uganda. The forums explained to community members about oil companies' planning cycles, their rights and how to exercise them, as well as helped them to develop discussion priorities when engaging with oil companies and the government. Its findings show that trust increased significantly in communities participating in the multi-stakeholder forums.

Another example by Armand et al. (2019) combines a randomised trial with lab-in-the-field experiments in Mozambique. It evaluated the effects of combining greater disclosure of information on the revenues and employment generated from the extractive sector with citizen-led meetings discussing priorities for spending public revenues from resource extraction. Measuring trust in community leaders, the provincial government, and national leaders using self-reported survey questions, they find a significant positive effect on trust when the information was given to leaders and citizens combined with such meetings. The effects of the intervention without these meetings were, though, statistically insignificant. When measuring trust through a game⁵, the analysis did not find significant effects across intervention sites with either only information dissemination or information dissemination combined with citizen meetings (Rathinam et al., 2019).

One limitation of the mixed findings in the latter of these studies may concern the external validity of the trust indicators originating from the game. For example, in other

⁵ The trust game involved 10 participants from the community (citizens) and the community leader. Each citizen was given an endowment of 100 meticaï, in the form of 10 tokens worth 10 meticaï each. Citizens had to decide to keep this income for themselves or send a portion to the leader. Funds sent to the leader were tripled. The leader then had to decide how much of this tripled amount to give back to the citizen.

behavioural literature Verschoor et al. (2016) reflect on lab-and-life discrepancies that can occur. Other reflections may also consider that these previous studies have involved using relatively limited interventions, often involving no more than a few short-lived community meetings. A broader literature on the dynamics of trust describes that trust is something that develops over time (Lewicki and Wiethoff, 2000 and Drescher et al. 2014). It may be in this case that the effects of transparency interventions only become more appreciable when we look at long-term interventions encouraging regular interactions and consistent signals of intent from stakeholders.

This then further highlights the interesting nature of the characteristics of the EITI and the contribution insights from an analysis of the initiative may begin to provide in this research domain. In particular, unlike previously studied interventions in this sector, it is a sustained intervention that has been undertaken over an extended period of time. It also requires substantial public international commitments from the highest level of the national government and regular stakeholder interaction through multi-stakeholder groups. Yet, despite the interesting nature of EITI, evidence examining the relationship between the EITI and trust remains scarce. Bickham (2015) offers one notable example of a qualitative evaluation examining the EITI and trust from the perspective of supporting mining companies. He argues that the initiative has played a significant part in changing attitudes towards transparency in the extractives sector and that this has helped to build a dialogue affecting trust among the sector's stakeholders in member countries. Although, to the best of our knowledge, broader quantitative evidence supporting these findings is lacking.

3. THE EITI AND TRUST IN POLITICIANS: AN EMPIRICAL ANALYSIS

This section contributes an empirical cross-country investigation examining the relationship between EITI status and trust in politicians. Next, we examine the details of the variables and estimation strategy used in this analysis. Appendices 1 to 4 further list

information on country EITI status and details of each of the variables. We then examine the results of this analysis.

Data and Estimation Strategy

This empirical analysis assesses the relationship between countries' EITI membership and public trust in politicians using a widely recognised measure deriving from the World Economic Forum's (WEF) Global Competitiveness Index. Asking respondents "In your country, how would you rate the ethical standards of politicians?", the variable scores between the values 1 and 7 (with higher values indicating higher levels of trust). Each country score reflects the average of the respondent's answers. The World Bank's Open Trade and Competitiveness database (TCdata360) publicly lists this data for each country.

To provide greater context for the selection of this variable, data on trust at a country level is typically somewhat limiting for cross-country econometric purposes. It is often collated relatively infrequently (e.g. the World Values Survey collects data approximately once every 5 years) and information providers that do create more frequent assessments of trust often only do so for a small set of countries (e.g. see the Edelman Trust Barometer or the OECD's Trustlab initiative). The trust data we use here, however, benefits from being compiled annually from an executive opinion survey during the period 2007 to 2016 and includes information for a broad cross-section of countries participating (or not) in the EITI.

To analyse the relationship between the EITI and trust in politicians, we use regressions with the general form:

$$TRUST_{it} = \beta_0 + \beta_1 EITI_{it} + \beta_2 X_{it} + \mu_i + \tau_t + \varepsilon_{it} \quad (i)$$

The variable denoted TRUST is the dependent variable representing the trust indicator from the WEF for country i in year t . The dependent variable for trust is standardised using the

samples pooled standard deviation to simplify the interpretation of the estimates. The EITI variable is a binary variable representing EITI status. This takes the value 1 when country i participates in the EITI in year t , and equals 0 otherwise. X represents a vector of control determining both the dependent variable and countries' EITI membership status (discussed below). The parameters β_0 , β_1 , and β_2 in eq. (i) are the intercept and the coefficients of the EITI variable and control variables respectively. Meanwhile, τ_t captures the common year-specific fixed-effects. The parameters μ_i and ε_{it} are the country-specific and variable components of the error term. The analysis focuses on developing countries reflecting that the limited sample of developed economies participating in the EITI, such as the U.K, Norway, and Germany, largely reflects a notional commitment as opposed to a development one per se (see Fenton Villar, 2019).

The regressions distinguish between three EITI (participation) variables. These variables refer to a country reaching any of the three consecutive stages in EITI implementation during the study period. The variables are EITI commitment, EITI candidate, and EITI compliant. Papyrakis et al. (2017) and Fenton Villar and Papyrakis (2017) further discuss countries' joining process, noting that the first stage (commitment) follows a public statement of a government declaring their intention to join the initiative. The second stage (candidate) follows the completion of a formal application, which also requires a country to form a multi-stakeholder group together with companies and civil society and to create a work plan outlining the steps intended to ensure a country meets the EITI's international standards. Finally, a country becomes a fully compliant member of the EITI once it proves it meets the initiative's various requirements, such as regular disclosure of financial and contractual information. The EITI's independent administrators verify member's compliance with the initiative's international standards. Data for countries' histories in the EITI originates from the online EITI country index (EITI, 2019).

The regression analysis also considers different specifications. To do justice to discussions by Clark and Linzer (2015), Dieleman and Templin (2014), and Papyrakis et al. (2017), we examine a random-effects (RE) specification. They further discuss the trade-off between the fixed-effects (FE) (eq. 1) and random-effects estimators in cross-country research. They note that the random effect estimator may be more accurate even if it consists of hard to justify assumptions compared to the fixed-effects model.

Other specifications also consider that even the more robust fixed-effects estimator remains susceptible to issues concerning endogeneity. It is susceptible to such issues, for instance, when unobserved variables are either not time-invariant or time-invariant unobserved variables jointly affect both the outcome variable and the selection process determining whether a country participates in the EITI (Kasekende et al., 2016 and Lujala, 2018). To address these problems, this analysis considers instrumenting the EITI variable based on information on the EITI participation outcomes of neighbour countries. Using information on country land borders, a binary variable (NEIGHBOUR) indicates whether country i has a bordering neighbour that has committed to the EITI (1), or not (0). Further specifications consider using neighbour candidacy and compliance status as an instrument, as well as a measure of the proportion of neighbours with a particular EITI status.

The intuition behind using this neighbour variable as a basis for an instrumental variable derives from a broader literature from the field of political science discussing the geographical diffusion of public policies (Walker, 1969; Simmons and Elkins, 2004; and Simmons et al, 2006, Meseguer, 2009; Fernandez and Lutter, 2013; Mitchell and Petray, 2016; Gilardi and Wasserfallen, 2019). This literature discusses several reasons why public policy borrowing may occur. This includes competitive, coercive, and imitative motives (see Dobbin et al., 2007 and Shipan and Volden, 2008). For example, with respect to the EITI, increased adoption of the EITI in a region may increase political pressure for close economic rivals to follow suit (as

to prevent other nations increasing their relative competitiveness for limited aid and investment flows). It may also be that a country may become more amenable to adopt a policy by policymakers from other countries that they share commonalities (i.e. coerced to ‘join the club’ so to speak). Alternatively, the presence of a policy in a relatable context reduces the perceived political risks associated with introducing the EITI domestically. This may cause greater policy imitation between countries nearby.

The application of the instrumental variable approach to a binary endogenous treatment variable, however, offers complications in practice. Popularly dubbed the “forbidden regression” by Jerry Hausman (2001), suppose we were to use a non-linear first-stage regression (such as a probit regression) to obtain the predicted values of the endogenous EITI variable to plug into the second stage regression. This approach does not guarantee that the residuals of the first-stage regression would be uncorrelated with the fitted values and other covariates. Neither the expectations operator nor the linear projections operator passes through a non-linear first stage and, therefore, the fitted values from a first-stage probit model are only uncorrelated with the second stage error term under very restrictive assumptions unsuitable for applied settings. Only an OLS regression is guaranteed to produce first-stage residuals that are uncorrelated with fitted values (Greene, 2008).

This study circumvents this issue by performing a procedure further described by Wooldridge (2002, pp.623-625). This procedure consists of performing a 2SLS regression using the predicted probability of EITI participation ($Pr_{EITI} = E(EITI | X, NEIGHBOUR)$) as an instrument in the first stage of the 2SLS regression (see eq (ii) and eq.(iii)). Cerulli (2014) further compares the efficacy of this estimation procedure when addressing binary endogenous variables to the conventional 2SLS estimator (which would entail featuring the NEIGHBOUR variable in the 2SLS first stage regression in this instance). He highlights the advantages of the procedure in terms of both bias reduction and modelling efficiency.

$$EITI_{it} = \beta_0 + \beta_1 Pr_{EITI_{it}} + \beta_2 X_{it} + \mu_i + \tau_t + \varepsilon_{it} \quad (ii)$$

$$TRUST_{it} = \beta_0 + \beta_1 \widehat{EITI}_{it} + \beta_2 X_{it} + \mu_i + \tau_t + \varepsilon_{it} \quad (iii)$$

Finally, this analysis considers including rich and parsimonious specifications of our model. In our rich specifications, we add control variables in vector X that may correlate with both countries' EITI membership status and the outcome variable. This includes variables for GDP per capita, natural resource rents, trade, FDI, aid, polity, corruption the incidence of conflict, and freedom of the press (Pitlik, 2010 and Lujala, 2018). It also includes a variable reflecting the values for the interaction between corruption scores and the economic importance of resource-rents. This reflects discussion by Lujala (2018) that countries with high rents and corruption may be intrinsically less likely to join the EITI. Appendix 2, 3, and 4 provides further information on variables definitions and details.

A common practice in applied econometric analysis involves using the lags of the control variables in regression specifications. This practice is used to purge problems caused by reverse causality and other related issues which may cause variable endogeneity. Recent research shows this to be a less than perfect solution for identification. It requires strong assumptions are satisfied concerning the dynamics of unobservables factors (see Bellemere et al., 2017). Nevertheless, in the absence of instruments to sufficiently “exogenise” the control variables, the analysis also presents richer specifications with lagged controls for illustrative purposes. Note, though, identification using the instrumental variable estimator does not necessarily require such control variables. Here the benefit of the inclusion of additional control variables in the instrumental variable regression is based on the grounds of model efficiency, albeit at risk of the loss of model consistency (see Frolich, 2008 and Deuchert and Huber, 2017).

Results

We now examine the results of this empirical analysis. Table 1 reports the findings from parsimonious specifications of the random- and fixed-effects regressions. The results show that neither the random- nor the fixed-effects versions of the regression equation detect a statistically significant relationship between either EITI commitment or candidate status and trust in politicians. However, we do find evidence of a significant positive relationship between country compliance with the EITI and trust in politicians. The reported coefficients from random- and fixed-effects regressions represent estimates of improvements in trust of approximately 0.228 standard deviations and 0.245 standard deviations, with both models' coefficients significant at a 5% confidence level.

Table 1. Random- and Fixed-Effects Regressions on Trust in Politicians: Parsimonious Specifications

	(1)	(2)	(3)	(4)	(5)	(6)
	RE	RE	RE	FE	FE	FE
Commit	0.024 (0.133)			0.074 (0.144)		
Candidate		0.057 (0.093)			0.089 (0.098)	
Compliant			0.228** (0.105)			0.245** (0.107)
Constant	0.083 (0.268)	0.078 (0.264)	0.085 (0.264)	-0.331*** (0.056)	-0.330*** (0.050)	-0.320*** (0.049)
Obs.	919	919	919	919	919	919
R-squared	0.190	0.187	0.183	0.106	0.107	0.123

Notes: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1 per cent level of significance.

Next, Table 2 presents the findings from random- and fixed-effects regressions using richer specifications including control variables that may also relate with countries' uptake of the EITI. In line with the results from the parsimonious specification, neither the random- nor the fixed-effects regressions detect a significant relationship using either the EITI commitment or candidacy variable. Again, however, evidence exists of a significant and positive relationship between EITI compliance and trust in politicians. Having controlled for other

economic and institutional factors, we find the random- and fixed-effects models suggesting a statistically significant (at the 5% level) improvement in trust of approximately 0.251 standard deviations and 0.235 standard deviations.

Table 2. Random- and Fixed-Effects Regressions on Trust in Politicians: Rich Specifications

	(1)	(2)	(3)	(4)	(5)	(6)
	RE	RE	RE	FE	FE	FE
Commit	0.037 (0.098)			-0.028 (0.098)		
Candidate		0.055 (0.065)			0.003 (0.063)	
Compliant			0.251** (0.099)			0.235** (0.095)
Natural Res.	0.006 (0.012)	0.005 (0.012)	0.001 (0.012)	-0.026 (0.045)	-0.026 (0.045)	-0.036 (0.044)
Log GDP	-0.131 (0.093)	-0.131 (0.094)	-0.142 (0.090)	0.200 (0.391)	0.208 (0.386)	0.114 (0.404)
Aid	0.001 (0.008)	0.001 (0.008)	0.001 (0.008)	0.002 (0.008)	0.002 (0.008)	0.002 (0.008)
Trade	-0.000 (0.002)	-0.000 (0.002)	-0.000 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)
FDI	0.004 (0.003)	0.004 (0.003)	0.004 (0.003)	0.004 (0.004)	0.004 (0.004)	0.004 (0.003)
Polity	-0.021** (0.009)	-0.021** (0.009)	-0.020** (0.009)	-0.002 (0.013)	-0.002 (0.013)	-0.000 (0.013)
Conflict	0.043 (0.035)	0.042 (0.035)	0.054 (0.033)	0.048 (0.044)	0.047 (0.043)	0.062 (0.041)
Freedom	0.003 (0.004)	0.004 (0.004)	0.004 (0.003)	0.001 (0.007)	0.001 (0.007)	0.002 (0.006)
Corruption	-0.083*** (0.007)	-0.083*** (0.007)	-0.083*** (0.007)	-0.105*** (0.015)	-0.105*** (0.015)	-0.105*** (0.013)
Corrupt*Nat.	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Constant	5.042*** (1.189)	5.040*** (1.202)	5.036*** (1.114)	2.938 (3.903)	2.864 (3.864)	3.486 (3.917)
Obs.	648	648	648	648	648	648
R-squared	0.755	0.755	0.759	0.394	0.394	0.409

Notes: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1 per cent level of significance.

Taking a moment to examine the coefficients of the other variables in the regressions reported in Table 2, we see a significant negative relationship exists between corruption and trust (as expected). The coefficients of other variables, though, remain largely insignificant.

This may be because in cases where two variables are highly correlated, this may inflate the models' variance. For example, examining the correlation matrix highlights a high degree of correlation exists between the corruption and trust variables ($\rho=-0.775$, see Appendix 4). Alternatively, another explanation may be that there is some degree of over-adjustment bias. For example, Kolstad and Wigg (2012) previously argued the relationship between natural resources and trust is an indirect one operating through the effect of natural resources on conflict and corruption. Inclusion of an intermediary factor in the regression may bias estimates towards a null hypothesis (Schisterman et al., 2009 and Cook and Ranstam, 2017).

A degree of caution should be taken when dropping highly collinear variables from regression specifications (see O'Brien, 2017), nevertheless, further analysis removing both the conflict and corruption variables from regressions (see Appendix 5) does not change the qualitative conclusions inferred from our random- and fixed effects regressions seen in Tables 1 and 2. The EITI compliance variable remains significantly and positively related to trust, albeit at a 10% confidence level. Meanwhile, neither of the regression models detect a significant relationship with either the EITI commitment or candidacy variables. The results for the positive coefficient for the Log GDP variable do change though, becoming highly significant at the 1% confidence level. The coefficient for the natural resources variable also turns negative, even though it remains insignificant. To provide a more parsimonious look at the relationship between natural resources and trust in politicians, Appendix 6 presents regressions only including the resource variable as a control. Again, in line with the broader pearl hypothesis, the results do not detect the expected positive economic effects natural resource revenues may have on trust. In regressions only including the resource variable (i.e. excluding EITI variables) also do not detect a significant relationship.

Table 3 reports the results of the instrumental variable approach using parsimonious specifications. The columns headed (1) refer to the model using the EITI commitment variable

as the treatment variable, and those columns headed (2) and (3) refer to the models using the candidate and compliance variables. Examining the coefficients for the instrument Pr_{EITI} in the first stage of the 2SLS regression (1-2SLS) highlights the variable is both positively and significantly related to EITI participation in country i . The f-statistic at the bottom of the table further highlights the strength of the fitted values as an instrument, with values far greater than the conventional rule of thumb of 10 across the three models.

Table 3. Instrumental Variable Regressions on Trust in Politicians: Parsimonious Specifications

	(1)	(1)	(2)	(2)	(3)	(3)
	1-2SLS	2-2SLS	1-2SLS	2-2SLS	1-2SLS	2-2SLS
Commit		0.016 (0.313)				
Candidate				0.571** (0.282)		
Compliant						0.625** (0.292)
Pr_{EITI}	0.951*** (0.119)		1.018*** (0.157)		1.016*** (0.044)	
Constant	-0.087 (0.810)	0.858 (1.366)	0.067 (0.929)	1.767 (1.610)	0.044 (0.815)	1.397 (1.169)
Obs.	865	865	752	752	682	682
Instrument F-stat.	64		42		51	

Notes: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1 per cent level of significance.

The results of the second stage of the 2SLS regression (2-2SLS) in Table 3 also show that, while EITI commitment is not significantly related, both EITI candidacy and compliance positively relates with trust in politicians. The coefficients of the candidate and compliance variables are significant at a 5% confidence level and are substantially larger than the estimates previously given by the random- and fixed effects regressions. In this instance, the coefficients infer EITI candidacy relates with approximately a 0.571 standard deviation improvement in trust in politicians. The coefficient for the compliance variable, meanwhile, is slightly larger and infers an improvement in trust scores of approximately 0.625 standard deviations.

Table 4. Instrumental Variable Regressions on Trust in Politicians: Rich Specifications

	(1)	(1)	(2)	(2)	(3)	(3)
	1-2SLS	2-2SLS	1-2SLS	2-2SLS	1-2SLS	2-2SLS
Commit		0.418*** (0.094)				
Candidate				0.372*** (0.114)		
Compliant						0.334*** (0.088)
Pr_{EITI}	1.014*** (0.060)		0.981*** (0.073)		1.066*** (0.041)	
Natural Res.	-0.000 (0.011)	0.006 (0.047)	0.001 (0.018)	0.009 (0.048)	-0.003 (0.012)	-0.008 (0.048)
Log GDP	0.000 (0.149)	-0.206 (0.311)	0.007 (0.189)	-0.305 (0.319)	0.026 (0.110)	-0.468 (0.345)
Aid	-0.000 (0.004)	-0.000 (0.008)	-0.000 (0.005)	-0.001 (0.008)	0.000 (0.003)	-0.003 (0.008)
Trade	-0.000 (0.001)	0.003 (0.002)	0.000 (0.001)	0.003 (0.002)	-0.000 (0.000)	0.002 (0.003)
FDI	-0.000 (0.001)	0.001 (0.004)	-0.000 (0.001)	-0.000 (0.004)	0.002 (0.009)	0.001 (0.004)
Polity	0.000 (0.008)	0.028 (0.025)	-0.001 (0.010)	0.023 (0.025)	0.002 (0.017)	0.014 (0.027)
Conflict	0.001 (0.026)	-0.039 (0.039)	-0.003 (0.028)	-0.034 (0.039)	0.005 (0.009)	0.016 (0.041)
Freedom	0.000 (0.003)	-0.002 (0.007)	-0.000 (0.003)	-0.001 (0.007)	0.001 (0.002)	-0.004 (0.007)
Corruption	-0.000 (0.005)	-0.090*** (0.011)	0.000 (0.005)	-0.090*** (0.011)	-0.000 (0.003)	-0.091*** (0.011)
Corrupt*Nat.	0.000 (0.000)	-0.000 (0.001)	-0.000 (0.000)	-0.000 (0.001)	0.000 (0.000)	0.000 (0.001)
Constant	0.091 (0.501)	4.267*** (0.963)	-0.034 (0.691)	4.614*** (0.949)	0.024 (0.483)	4.435*** (0.886)
Obs.	537	537	537	537	486	486
Instrument F-stat.	285		180		666	

Notes: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1 per cent level of significance.

The findings from the instrumental approach using richer specifications, presented in Table 4, further confirm the results from the parsimonious specifications. The coefficients for the instrument Pr_{EITI} remain significant and positively related to EITI participation. The candidacy and compliance variables coefficients also remain positive and significant. Although, the size of the coefficients are substantially smaller, inferring approximately a 0.372 and 0.334 standard deviation increase. The results of the richer instrumental variable

specifications also highlight a significant and positive relationship between EITI commitment and trust. The control variables coefficients are again also largely insignificant. Excluding the corruption and control variables does not change the significance of the other control variables coefficients in this instance, however, the statistical significance of the EITI variables are sensitive to their inclusion (see Appendix 7). Albeit, note the following caution that identification is also conditional on the somewhat stringent assumption that the lagged control variables are exogenous.

Further analysis also considered using neighbour country candidate and compliance status in our instrumental variable procedure, as well as the proportion of neighbours that are participating in the EITI as an instrument in a conventional 2SLS approach. In the first instance, the instruments derived from variables concerning the neighbour country candidate or compliance status did not significantly relate with either EITI commitment, candidacy, or compliance. The corresponding variables concerning the proportion of neighbours that are EITI participating also proved weak instruments, with f-tests concerning instrument strength below even the conservative rule of thumb of 10. Bound et al. (1993) details the various problems associated with weak instruments, namely inconsistent estimation and increased risk of finite sample bias. These variables are, therefore, not considered sufficient for inclusion as valid instruments in this analysis.

Other extensions considered using the corruption indicator (the Bayesian Corruption Indicator – or BCI) as an outcome variable in instrumental variable equations. The analysis did not find a statistically significant relationship between the EITI variables and the corruption variable. However, this does not necessarily offer contradictory evidence to the findings of previous studies which do detect a significant relationship between the EITI and corruption variables (e.g. see Papyrakis et al, 2017 and Fenton Villar, 2019). A limitation of the instrumental approach concerns its degree of model inefficiency (given that the variance of the

errors in 2SLS is relatively large). It is often difficult to validate a null (statistically insignificant) result due to the approaches susceptibility to type two errors with small samples and sluggish (slow changing) macroeconomic variables. Such characteristics of the data are likely to heighten the estimates susceptibility to this problem (see Crown et al., 2011 and Boef et al., 2014).

4. CONCLUSION

In this paper, we take a first look at the relationship between a longstanding multi-stakeholder transparency intervention, the EITI, and trust in politicians. We examined the relationship between the EITI and trust following different stages of participation in the initiative (i.e. following initial commitment, candidature, and full compliance) and using different econometric approaches. Overall, the results present evidence of a positive and significant relationship between EITI participation and trust in politicians. Random- and fixed-effects regressions find a positive and significant relationship between EITI compliance and trust in politicians. Using an instrument measuring the variation in neighbouring countries' EITI participation to control for the endogenous nature of one's own EITI involvement, regression estimates also corroborate that EITI compliance is positively and significantly related to trust. There is also some evidence of a positive and significant relationship between EITI candidacy and improved levels of trust in politicians.

These findings contribute further evidence to a growing literature on the effects of multi-stakeholder transparency interventions in the extractive industries on public trust. In particular, while existing studies examining short-lived interventions offers mixed evidence of their effects on trust, this study highlights the potential importance of sustained transparency interventions. Such interventions may not pose a quick fix but, reflecting theories of the dynamics of trust, appreciable improvements in citizens trust may accumulate over time or with consistent signals of intent. This point offers an interesting avenue for future policy

research, with interventions tracking the evolution of trust outcomes in greater depth over time. Extensions to this research would also benefit from examining the discrepancies highlighted in previous studies between levels of trust reported from surveys and those originating from trust games. This current study is based solely on levels of trust measured from self-reported survey data.

This study also only looks at the relationship between the EITI and trust using cross-country analysis. Further research would benefit from insights given by in-depth analysis within individual countries, and at a local level. The discussion laid out various mechanisms through which the EITI may impose on citizens levels of trust. For example, by removing perceived barriers to oversight, increasing communication and dialogue with civil society, and offering public signs of commitment to good governance. Such research would be well placed to better explore these various mechanisms, how they may work in different contexts (e.g. within the limited number of post-conflict settings the EITI works in), and more precisely the extent of their role or perceived importance in enhancing trust among the EITI's different stakeholders. This also raises a broader question of efficacy that could be explored. This concerns what types of approaches or strategies of communicating the EITI's information may be more appropriate and appealing to different types of stakeholders operating at different levels (i.e. local, regional, national, and international).

Finally, this analysis provides further insights into the so-called 'Pearl Hypothesis'. This analysis does not detect a significant positive relationship between natural resources and trust (i.e. a resource blessing). In particular, if we exclude key mediating variables such as corruption and conflict from our panel regressions, the regression coefficients turn negative (albeit they are statistically insignificant). Future research in this nexus could benefit from shedding light on why it may be that different populations can become to feel politically

marginalised from resource booms, and how it may be possible to ensure more inclusive social development from the public revenues of natural resources.

5. REFERENCES

- Aaronson, S. A. 2011. Limited Partnership: Business, government, civil society, and the public in the Extractive Industries Transparency Initiative (EITI). *Public Administration and Development*, 31, pp.50–63.
- Acemoglu, D., Cheema, A., Khwaja, J. A. and Robinson, J. 2018. *Trust in State and Non-State Actors: Evidence from Dispute Resolution in Pakistan*. NBER Working Paper No. 24611, Boston, MA.
- Andrews, N. and Okpanachi, E. 2020. Depoliticisation and ahistoricism of transparency and accountability via global norms: assessing the EITI in Ghana and Nigeria. *Commonwealth & Comparative Politics*, 58(2), pp.228–249.
- Arellano-Yanguas, J. Aggravating the resource curse: decentralisation, mining and conflict in Peru. *Journal of Development Studies*, 47(4), pp.617–638.
- Armand, A., Costa, A. I., Coutts, A., Vicente, P. and Vilela, I. 2019. *Using information to break the political resource curse in natural gas management in Mozambique*. 3ie Impact Evaluation Report 93. New Delhi: International Initiative for Impact Evaluation (3ie).
- Bebbington, A., Arond, E., & Dammert, J. L. (2017). Explaining diverse national responses to the Extractive Industries Transparency Initiative in the Andes: What sort of politics matters? *The Extractive Industries and Society*, 4(4), 833–841.
- Bellemere, M. F., Masaki, T. and Pepinsky, T. B. 2017. Lagged Explanatory Variables and the Estimation of Causal Effect. *The Journal of Politics*, 79(3), pp.949–961.

- Bickham, E. 2015. *Mining and the Extractive Industries Transparency Initiative: A review of international and in-country experiences of the EITI from the perspective of supporting mining companies*. Report to the International Council on Mining and Metals (ICMM).
- Boef, A. G., Dekkers, O. M., Vandenbroucke, J. P. and le Cessie, S. 2014. Sample size importantly limits the usefulness of instrumental variable methods, depending on instrument strength and level of confounding. *Journal of Clinical Epidemiology*, 67, pp.1258–1264.
- Bound, J., D. Jaeger, and R. Baker. 1993. The cure can be worse than the disease: A cautionary tale regarding instrumental variables. NBER technical paper No. 137, Boston, MA.
- Carter, B. 2013. Interventions to increase levels of trust in society. GSDRC Helpdesk Research Report 941, Birmingham, UK: GSDRC, University of Birmingham.
- Cerulli, G. 2014. ivtreatreg: A command for fitting binary treatment models with heterogeneous response to treatment and unobservable selection. *Stata Journal*, 14(3), pp.453–480.
- Clark, T., and Linzer, D. (2015). Should I Use Fixed or Random Effects? *Political Science Research and Methods*, 3(2), 399-408.
- Coleman, E., Manyindo, J., Parker, R. and Schultz, B. 2019. *An impact assessment of stakeholder engagement interventions in Ugandan oil extractives*. 3ie Grantee Final Report, New Delhi: International Initiative for Impact Evaluation (3ie).
- Cook, J. A. and Ranstam, J. 2017. Statistical models and confounding adjustment. *British Journal of Surgery*, 104(6), pp.786–787.

- Crown, W. H., Henk, H. J. and Vanness, D. J. 2011. Some cautions on the use of instrumental variables estimators in outcomes research: how bias in instrumental variables estimators is affected by instrument strength, instrument contamination, and sample size. *Value Health*, 14(8), pp.1078–1084.
- de Regt, W. 2015. *Corrupt Conduct - Transparency, Norms and Trust*. Maastricht University MaRBLLe Research Paper.
- Deuchert, E. and Huber, M. 2017. A Cautionary Tale About Control Variables in IV Estimation. *Oxford Bulletin of Economics and Statistics*, 79(3), pp.411–425.
- Dieleman, J. L. and Templin, T. 2014. Random-Effects, Fixed-Effects and the within-between Specification for Clustered Data in Observational Health Studies: A Simulation Study. *PLoS One*, 9(10), e110257.
- Dietsche, E. 2017. *New industrial policy and the extractive industries*. WIDER Working Paper 161.
- Dobbin, F., Simmons, B. and Garrett, G. 2007. The Global Diffusion of Public Policies: Social Construction, Coercion, Competition, or Learning?. *Annual Review of Sociology*, 33(1), pp.449–472.
- Drescher, M. A., Korsgaard, M. A., Welpel, I. M., Picot, A. and Wigand, R. T. 2014. The dynamics of shared leadership: building trust and enhancing performance. *Journal of Applied Psychology*, 99(5), pp.771–783.
- Eigen, P. 2009. *Transparency as a tool for trust-building and stability in a volatile world*. Business Action for Africa Report on MDGs and Business.
- EITI. 2018. Trust is one of the most critical factors for success. [Online]. Available at: <https://eiti.org/news/trust-is-one-of-most-critical-factors-for-success> [Accessed April 19,

2020].

EITI. 2019. Homepage Extractive Industries Transparency Initiative. [Online]. Available at: <https://eiti.org/> [Accessed May 21, 2019].

Fenton Villar, P. 2019. *Tackling corruption in the Extractive Industries: An assessment of the Extractive Industries Transparency Initiative (EITI)*. Presented at: International Annual Conference for Integrity (CAII), Lima, Peru, 3rd December 2019.

Fenton Villar, P. and Papyrakis, E. 2017. Evaluating the impact of the Extractive Industries Transparency Initiative (EITI) on corruption in Zambia. *The Extractive Industries and Society*, 4 (4), pp.795–805.

Fernandez, J. J. and Lutter, M. 2013. Supranational cultural norms, domestic value orientations and the diffusion of same-sex union rights in Europe, 1988-2009. *International Sociology*, 28(1), pp.102–120.

Frolich, M. 2008. Parametric and Nonparametric Regression in the Presence of Endogenous Control Variables. *International Statistical Review*, 76(2), pp.214–227.

Gilardi, F. and Wasserfallen, F. 2019. The Politics of Policy Diffusion. *European Journal of Political Research*. 58(4), pp.1245–1256.

Gillies, A. 2010. Reputational concerns and the emergence of oil sector transparency as an international norm. *International Studies Quarterly*, 54(1), pp.103–126.

Gillies, A. and Heuty, A. 2011. Does Transparency Work? The Challenges of Measurement and Effectiveness in Resource-Rich Countries. *Yale Journal of International Affairs*, 6(2), pp.25–42.

Global Witness, 1999. *A Crude Awakening*. London: Global Witness.

- Greene, W. H. 2008. *Econometric Analysis*. New York, NY: Prentice Hall.
- Hausman, J. 2001. Mismeasured Variables in Econometric Analysis: Problems from the Right and Problems from the Left. *The Journal of Economic Perspectives*, 15(4), pp.57–67.
- Ishiyama, J. Martinez, M. and Ozsut, M. 2018. Do “Resource-Cursed States” Have Lower Levels of Social and Institutional Trust? Evidence from Africa and Latin America. *Social Science Quarterly*, 99(3), pp.872–894.
- Kasekende, E., Abuka, C. and Sarr, M. 2016. Extractive industries and corruption: Investigating the effectiveness of EITI as a scrutiny mechanism. *Resources Policy*, 48, pp.117–128.
- Kolstad, I. and Wiig, A. 2012. Testing the Pearl Hypothesis: Natural resources and trust. *Resources Policy*, 37, pp.358–367.
- Le Billon, P. 2014. Natural resources and corruption in post-war transitions: matters of trust. *Third World Quarterly*, 35(5), pp.770-786.
- Le Billon, P., Lujala, P. and Rustad, S. 2020. *A Theory of Change for the EITI: How can increased transparency contribute to better natural resource governance?* Bergen: CMI/U4.
- Lahn, G. and Stevens, P. 2017. *The curse of the one-size-fits-all fix: Re-evaluating what we know about extractives and economic development*. WIDER Working Paper 21.
- Lewicki, R. J. and Wiethoff, C. 2000. Trust, Trust Development, and Trust Repair. In. M. Deutsch and P.T. Coleman (Eds.), *The handbook of conflict resolution: Theory and practice*, San Francisco, CA: Jossey-Bass.
- Lewis, W. A. (1955). *Theory of economic growth*. Homewood, Illinois: R.D. Irwin.

- Lujala, P. 2018. An analysis of the Extractive Industries Transparency Initiative implementation process. *World Development*, 107, pp.358–381.
- Magno, C. and Gatmaytan. 2017. Corruption and civic space: Contextual factors influencing EITI compliance. *The Extractive Industries and Society*, 4(4), pp. 806–815.
- Majone, G. 1996. *Temporal Consistency and Policy Credibility: Why Democracies Need Non-Majoritarian Institutions*. European University Institute Working Paper, No. 57.
- McDevitt, A. 2017. *Transparency and Accountability in the Extractives Sector*. K4D Helpdesk Report. Brighton, UK: Institute of Development Studies.
- Meseguer, C. 2009. *Learning, Policy Making, and Market Reforms*. Cambridge University Press: Cambridge.
- Miller, R. 2015. Natural resource extraction and political trust. *Resources Policy*, 45, pp.165–172.
- Mitchell, J. L. and Petray, E. 2016. The march toward marriage equality: Reexamining the diffusion of same-sex marriage among states. *Public Policy and Administration*, 31(4), pp.283–302.
- O’Brien, R. M. 2017. Dropping Highly Collinear Variables from a Model: Why it Typically is not a good idea. *Social Science Quarterly*, 98(1), 360–375.
- Öge, K. 2016. Which transparency matters? Compliance with anti-corruption efforts in extractive industries. *Resources Policy*, 49, pp.41–50.
- Okpanachi, E. and Andrews, N. 2013. *Global Energy Governance and Natural Resource Transparency in Africa: Assessing the Extractive Industries Transparency Initiative (EITI) in Nigeria and Ghana*. ASA 2013 Annual Meeting Paper. [Online]. Available at SSRN: <https://ssrn.com/abstract=2237156> [Accessed December 05, 2017].

- Orihuela, J. C., Pérez, C. A. and Huaroto, C. 2019. Do fiscal windfalls increase mining conflicts? Not always. *The Extractive Industries and Society*, 6(2), 313–318.
- Ozohu-Suleiman, A. 2016. *Full Disclosure in Governance: A Public Perception Survey of EITI in Nigeria*. 12th European Conference on Management, Leadership and Governance.
- Papyrakis, E., Rieger, M. and Gilberthorpe, E. 2017. Corruption and the Extractive Industries Transparency Initiative. *The Journal of Development Studies*, 53, pp.295–309.
- Pitlik, H., Frank, B. and Firchow, M. 2010. The demand for transparency: an empirical note. *The Review of International Organizations*, 5(2), 177–195.
- Robinson, J., Torvik, R. and Verdier, T. 2006. Political foundations of the resource curse. *Journal of Development Economics*, 79(2), pp.447–468.
- Rostow, W. W. (1960). *The stages of growth: A non-communist manifesto*. Cambridge: Cambridge University Press.
- Rathinam, F., Cardoz, P., Siddiqui, Z. and Gaarder, M. 2019. *Transparency and accountability in the extractives sector: a synthesis of what works and what does not*. 3ie Working Paper 33. New Delhi: International Initiative for Impact Evaluation (3ie).
- Rich, E. and Warner, T. N. 2009. Addressing the roots of Liberia’s conflict through EITI. [Online]. Available at: <https://eiti.org/files/documents/EITI%20Case%20Study%20-%20Liberia.pdf> [Accessed April 19, 2020].
- Rustad, S., Le Billion, P. and Lujala, P. 2017. Has the Extractive Industries Transparency Initiative been a success? Identifying and evaluating EITI goals. *Resources Policy*, 51, pp.151–162.

- Schisterman, E., Cole, S. and Platt, R. 2009. Overadjustment Bias and Unnecessary Adjustment in Epidemiologic Studies. *Epidemiology*, 20(4), pp.448–495.
- Shipan, C. R. and Volden, C. 2008. The Mechanisms of Policy Diffusion. *American Journal of Political Science*, 52(4), pp.840–857.
- Short, C. 2014. The development of the Extractive Industries Transparency Initiative. *Journal of World Energy Law and Business*, 7, pp.8–15.
- Simmons, B. A. and Elkins, Z. 2004. The globalization of liberalization: Policy diffusion in the international political economy. *American Political Science Review*, 98(1), pp.171–189.
- Simmons, B. A., Dobbin, F., and Garrett, G. 2006. Introduction: The international diffusion of liberalism. *International Organization*, 60, pp.781–810.
- Sovacool, B., Walter, G., Van De Graaf, T. and Andrews, N. 2016. Energy Governance, Transnational Rules, and the Resource Curse: Exploring the Effectiveness of the Extractive Industries Transparency Initiative (EITI). *World Development*, 83, pp.179–192.
- Standaert, S. 2015. Divining the level of corruption: A Bayesian state-space approach. *Journal of Comparative Economics*, 43(3), pp.782–803.
- Stevens, P., Lahn, G. and Kooroshy, J. 2015. *The Resource Curse Revisited*. London: Chatham House.
- Van Alstine, J. 2017. Critical reflections on 15 years of the Extractive Industries Transparency Initiative (EITI). *The Extractive Industries and Society*, 4(4), pp.766–770.

- Verschoor, A., D'Exelle, B. and Perez-Viana, B. 2016. Lab and life: does risky choice behaviour observed in experiments reflect that in the real world. *Journal of Economic Behavior & Organization*, 128, pp.134–148.
- Viner, J. (1953). International trade and economic development. In *Free Press*. Glencoe, Illinois.
- Walker, J.L. 1969. The diffusion of innovations among the American states. *American Political Science Review*, 63(3), pp.880–899.
- Wooldridge, J. M. 2002. *Econometric analysis of cross section and panel data*. Cambridge, Massachusetts: MIT Press.

6. APPENDICES

Appendix 1. List of countries in sample and EITI status.

Country	Commitment	Candidate	Compliant
Albania	2009	2009	2013
Argentina			
Armenia			
Azerbaijan	2003	2007	2009
Burundi			
Benin			
Bangladesh			
Bahrain			
Bosnia and Herzegovina			
Bolivia			
Brazil			
Barbados			
Bhutan			
Botswana			
Chile			
China			
Cote d'Ivoire	2007	2008	2013
Cameroon	2005	2007	2013
Congo, Dem. Rep.	2005	2007	2014
Colombia	2013	2014	
Cabo Verde			
Costa Rica			
Dominican Republic	2016	2016	
Algeria			
Ecuador			
Egypt, Arab Rep.			
Ethiopia	2009	2014	
Gabon	2004	2007	
Georgia			
Ghana	2003	2007	2010
Gambia, The			
Guatemala	2010	2011	2014
Honduras	2012	2013	
Croatia			
Indonesia	2008	2010	2014
India			
Iran, Islamic Rep.			
Jamaica			
Jordan			
Kazakhstan	2005	2007	2013

Country	Commitment	Candidate	Compliant
Kenya			
Kyrgyz Republic	2004	2007	2011
Cambodia			
Lao PDR			
Lebanon			
Liberia	2007	2008	2009
Sri Lanka			
Lesotho			
Morocco			
Moldova			
Madagascar	2008	2008	
Mexico	2015	2017	
Macedonia, FYR			
Mali	2006	2007	2011
Malta			
Mongolia	2006	2007	2010
Mozambique	2008	2009	2012
Mauritania	2005	2007	2012
Mauritius			
Malawi	2014	2015	
Malaysia			
Namibia			
Nigeria	2003	2007	2011
Nicaragua			
Nepal			
Oman			
Pakistan			
Panama			
Peru	2005	2007	2012
Philippines	2012	2013	
Paraguay			
Rwanda			
Saudi Arabia			
Senegal	2012	2013	
Sierra Leone	2006	2008	2014
El Salvador			
Serbia			
Slovenia			
Chad	2007	2010	2014
Thailand			
Tajikistan	2012	2013	
Trinidad and Tobago	2010	2011	2015

Country	Commitment	Candidate	Compliant
Tunisia			
Turkey			
Tanzania	2008	2009	2012
Uganda			
Uruguay			
Venezuela, RB			
Vietnam			
Yemen, Rep.	2007	2007	2011
South Africa			
Zambia	2008	2009	2012
Zimbabwe			

Appendix 2. Table of variable descriptions.

Variables	Description	Data Source
Trust	This indicator measures the extent that respondents rate the ethical standards of politicians in country <i>i</i> . Index Range: 1-7 (with higher values indicating higher levels trust).	Open Trade and Competitiveness database
Commit	This is a binary variable where 1 denotes that country <i>i</i> is publically committed to implementing the EITI in year <i>t</i> , and 0 if they are not.	EITI online country index
Candidate	This is a binary variable where 1 denotes that country <i>i</i> is verified a EITI candidate country in year <i>t</i> , and 0 they are not.	EITI online country index
Compliant	This is a binary variable where 1 denotes that country <i>i</i> is verified a EITI compliant member in year <i>t</i> , and 0 if they are not.	EITI online country index
Neighbour	This is a binary variable where 1 denotes that country <i>i</i> has a neighbour country that has committed to the EITI in year <i>t</i> , and 0 if they are not. Further specifications provide alternative binary measures of this variable based on neighbour candidacy and compliance status. They also use a measure of the proportion of neighbours with a particular EITI status.	geodatasource.com
Natural Res.	The sum of rents from minerals, coal, oil and natural gas (% of GDP).	World Development Indicators
Aid	Net Official development assistance (% GDP).	World Development Indicators
Trade	International Trade (% of GDP).	World Development Indicators
FDI	Foreign Direct Investment (% of GDP).	World Development Indicators

Variables	Description	Data Source
Polity	Polity2 index (-10 to 10) measures the democratic accountability of the political system (with higher scores given to political systems that are more democratic).	Polity IV Project
Conflict	This index measures the risk of violence in a country. Index Range: 0-12 (higher scores given to countries with less conflict).	PRS Group
Freedom	This rating assesses the degree of print, broadcast, and digital media freedom. Index Range: 0-100 (Lower scores given to countries with a freer press).	Freedom House
Corruption	The Bayesian Corruption Indicator (BCI) is a composite index of the perceived level of public corruption in a given country. Index Range: 0-100 (with higher scores given to countries with higher levels of corruption).	Standaert (2015)

Appendix 3. Table of Descriptive Statistics.

Variables	Mean	Std. Dev.	Min	Max
Trust	2.733	0.903	1.251	5.794
Commit	0.298	0.458	0	1
Candidate	0.238	0.426	0	1
Compliant	0.113	0.317	0	1
Neighbour	0.259	0.438	0	1
Natural Res.	6.991	10.291	0	53.961
Log GDP	8.783	0.987	6.552	10.834
Aid	4.191	5.679	-0.675	46.254
Trade	83.185	40.689	21.447	325.998
FDI	6.049	21.231	-7.438	451.716
Polity	3.862	5.647	-10	10
Conflict	8.792	1.448	4.625	11.5
Freedom	54.113	18.223	15	92
Corruption	53.234	11.404	22.837	73.928
Corrupt*Nat.	372.64	549.635	0	3344.746

Appendix 4. Correlation Matrix.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Trust	1.000														
(2) Commit	-0.041	1.000													
(3) Candidate	-0.034	0.872	1.000												
(4) Compliant	0.063	0.546	0.626	1.000											
(5) Neighbour	-0.063	0.007	-0.017	-0.045	1.000										
(6) Natural Res.	0.170	0.270	0.263	0.251	0.072	1.000									
(7) Log GDP	0.196	-0.302	-0.255	-0.125	0.001	0.270	1.000								
(8) Aid	-0.019	0.230	0.194	0.152	0.054	-0.099	-0.725	1.000							
(9) Trade	0.243	-0.094	-0.104	-0.041	-0.051	0.104	0.125	0.066	1.000						
(10) FDI	0.147	0.199	0.199	0.202	-0.037	0.167	-0.063	0.296	0.321	1.000					
(11) Polity	-0.360	-0.033	-0.042	-0.026	-0.070	-0.295	0.103	-0.087	-0.028	0.060	1.000				
(12) Conflict	0.240	-0.062	-0.052	-0.073	0.051	0.069	0.229	-0.008	0.398	0.232	0.122	1.000			
(13) Freedom	0.173	0.010	0.008	-0.008	0.025	0.202	-0.048	0.003	0.010	-0.093	-0.739	-0.209	1.000		
(14) Corruption	-0.775	0.281	0.253	0.143	0.051	-0.015	-0.398	0.166	-0.238	-0.109	0.068	-0.306	0.075	1.000	
(15) Corrupt*Nat.	0.027	0.325	0.315	0.284	0.072	0.956	0.182	-0.071	0.075	0.156	-0.243	0.031	0.185	0.162	1.000

Appendix 5. Random- and Fixed-Effects Regressions on Trust in Politicians: Rich Specifications (Exc. corruption and conflict variables)

	(1)	(2)	(3)	(4)	(5)	(6)
	RE	RE	RE	FE	FE	FE
Commit	-0.001 (0.150)			0.056 (0.154)		
Candidate		0.033 (0.102)			0.081 (0.107)	
Compliant			0.200* (0.115)			0.224* (0.120)
Natural Res.	-0.005 (0.006)	-0.006 (0.006)	-0.004 (0.005)	-0.004 (0.006)	-0.003 (0.007)	-0.001 (0.007)
Log GDP	0.503*** (0.128)	0.505*** (0.128)	0.495*** (0.128)	1.078*** (0.367)	1.069*** (0.365)	1.012*** (0.365)
Aid	0.005 (0.009)	0.005 (0.009)	0.004 (0.009)	-0.006 (0.008)	-0.006 (0.008)	-0.006 (0.008)
Trade	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)
FDI	0.006** (0.003)	0.005* (0.003)	0.005 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)
Polity	-0.027* (0.015)	-0.027* (0.015)	-0.026* (0.015)	-0.010 (0.018)	-0.010 (0.018)	-0.011 (0.018)
Freedom	0.004 (0.009)	0.005 (0.009)	0.005 (0.008)	0.009 (0.012)	0.009 (0.012)	0.010 (0.011)
Constant	-4.443*** (1.485)	-4.470*** (1.471)	-4.382*** (1.452)	-9.747*** (3.485)	-9.670*** (3.467)	-9.189*** (3.465)
Obs.	794	794	794	794	794	794
R-squared	0.256	0.253	0.242	0.157	0.159	0.172

Notes: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1 per cent level of significance.

Appendix 6. Random- and Fixed-Effects Regressions on Trust in Politicians: Parsimonious Specifications (Inc. Natural Resource variable)

	(1)	(2)	(3)	(4)	(5)	(6)
	RE	RE	RE	FE	FE	FE
Commit	0.035 (0.134)			0.087 (0.144)		
Candidate		0.048 (0.095)			0.079 (0.099)	
Compliant			0.221** (0.109)			0.235** (0.111)
Natural Res.	-0.003 (0.005)	-0.003 (0.005)	-0.001 (0.004)	-0.005 (0.005)	-0.004 (0.005)	-0.002 (0.005)
Constant	0.152 (0.299)	0.151 (0.298)	0.153 (0.300)	-0.287*** (0.071)	-0.287*** (0.069)	-0.296*** (0.066)
Obs.	901	901	901	901	901	901
R-squared	0.179	0.178	0.179	0.102	0.102	0.116

Notes: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1 per cent level of significance.

Appendix 7. Instrumental Variable Regressions on Trust in Politicians: Rich Specifications
(Exc. corruption and conflict variables)

	(1)	(1)	(2)	(2)	(3)	(3)
	1-2SLS	2-2SLS	1-2SLS	2-2SLS	1-2SLS	2-2SLS
Commit		0.307** (0.136)				
Candidate				0.248 (0.167)		
Compliant						0.113 (0.135)
Pr_{EITI}	1.026*** (0.063)		0.978*** (0.077)		1.054*** (0.043)	
Natural Res.	-0.000 (0.003)	-0.003 (0.009)	-0.000 (0.004)	-0.001 (0.009)	-0.000 (0.003)	0.001 (0.009)
Log GDP	0.032 (0.158)	0.376 (0.447)	0.004 (0.193)	0.299 (0.451)	0.028 (0.118)	0.181 (0.476)
Aid	-0.001 (0.005)	-0.011 (0.011)	-0.000 (0.006)	-0.011 (0.011)	-0.000 (0.003)	-0.008 (0.012)
Trade	-0.000 (0.001)	0.003 (0.004)	0.000 (0.001)	0.003 (0.004)	0.000 (0.001)	0.003 (0.004)
FDI	-0.000 (0.001)	-0.003 (0.006)	-0.000 (0.002)	-0.003 (0.006)	-0.000 (0.001)	-0.003 (0.006)
Polity	0.000 (0.009)	0.026 (0.037)	-0.002 (0.010)	0.022 (0.037)	0.001 (0.009)	0.013 (0.039)
Freedom	0.000 (0.004)	-0.001 (0.010)	-0.001 (0.003)	-0.001 (0.010)	0.001 (0.003)	-0.005 (0.010)
Constant	0.079 (0.503)	-4.217*** (1.461)	-0.029 (0.674)	-3.968*** (1.442)	-0.022 (0.555)	-3.886*** (1.320)
Obs.	537	537	537	537	486	486
Instrument F-stat.	261		160		585	

Notes: Robust standard errors of coefficients in parentheses. Superscripts *, **, *** correspond to a 10, 5 and 1 per cent level of significance.