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Oil, Politics, and Corrupt Bastards*

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Abstract

We develop an analytical framework in which a natural-resource-extracting firm pays an incumbent politician both legal and illegal bribes in exchange for reductions in the severance tax rate. A positive resource shock increases the marginal benefit of a tax cut and more bribes are given. We test this theory using forty years of U.S. state-level data, measuring legal corruption as contributions to political campaigns from the oil and gas sector, and illegal corruption as both convictions of public corruption and "reflections" of it, measured as the frequency that words like "corrupt", "fraud", and "bribery"—and their iterations—appear in local newspapers. We find that oil-rich U.S. states are significantly more corrupt than their oil-poor counterparts and that this is especially true during periods of high oil prices, suggesting an underlying causal relationship. Our findings are robust to a variety of modeling assumptions and specifications suggesting that oil—through its effect on political corruption—plays an indirect, critically important, and yet previously overlooked role in shaping public and economic outcomes in the United States.

Keywords: Oil; Rents; Political Corruption; Campaign Finance, Bribery

JEL Classification: Q33; Q32; D72; D73;

*The "Corrupt Bastards" were a group of Alaskan state legislators who jokingly referred to themselves as being members of a "Corrupt Bastards Club" before being convicted of illegally accepting cash bribes in exchange for legislative favors.

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"I sold my soul to the devil"—Former Alaska State Representative, Pete Kott.

1 Introduction

Around the time that oil prices were starting to surge in the mid 2000s, the Public Integrity Section of the Department of Justice, in collaboration with the Federal Bureau of Investigations (FBI), initiated a widespread investigation of public corruption in the state of Alaska. Central to their investigation was a man named Bill Allen, the CEO of a large oil-services company, VECO, and a host of state legislators that jokingly referred to themselves as being members of a "Corrupt Bastards Club". Reports at the time suggested that a handful of state legislators were accepting illegal bribes in exchange for their support of a proposed natural gas pipeline and reductions in the oil tax rate. In their book, *Crude Awakening: Money, Mavericks, and Mayhem in Alaska*, authors Amanda Coyne and Tony Hopfinger write that:

> "Also present in Suite 604 [a hotel room adjacent to the state Capital in Juenau, Alaska] was VECO founder Bill Allen. An oilman most of his life, Allen was a godfather character in Alaska's oil patch. Politically connected, he was in Juneau in 2006 buying influence in the legislature to keep oil taxes favorable for his clients, "the three big boys," as he referred to them: Exxon Mobil, BP, and Conoco Phillips. Part of that effort involved laying the groundwork in the legislature for an upcoming bill that would lock in taxes for decades on the oil companies... Allen booked Suite 604 for the 2006 legislative session. It was known as the "Animal House" among legislators, oil lobbyists, and the governor's top aides, who all routinely dropped in to visit Allen and his sidekick Rick Smith. They called themselves the "Corrupt Bastards Club" after a newspaper column that had accused them of corruption."

As part of their investigation, the FBI placed hidden cameras in the so-called, "Animal House", which exposed various state legislators being handed one hundred dollar bills from

Bill Allen, allegedly in exchange for their support of, among other things, an oil tax cut (Coyne and Hopfinger, 2011).[1] In the end, six legislators—one tenth of the Alaska state legislature—would be convicted of political corruption and wrongdoing (Demer, 2017).

Is the Alaskan corruption scandal an isolated case of a "political resource curse", or is oil more generally associated with political corruption in the United States? To guide our empirical analysis, we develop an analytical framework in which an oil-extracting firm pays bribes to an incumbent politician in exchange for reductions in the oil tax rate. Both legal bribes (such as campaign contributions) and illegal bribes (such as valuable gifts, kickbacks, cash payments) are used to purchase reductions in the oil tax rate. A positive resource shock—such as an oil discovery—increases the marginal benefit of a reduction in the tax rate and more bribes are given.

We test the predictions of the model using more than forty years of U.S. state data. We measure legal corruption as campaign contributions from the oil and gas industry to state and local candidates for public office. Illegal corruption is measured as both convictions of corruption by the Public Integrity Section of the Justice Department and as reflections of corruption, measured as the number of times state and local newspaper articles use words like, "fraud", "bribe", "corrupt" and their various iterations.

We document a robust positive relationship between oil wealth and corruption across the U.S. states.[2] For example, relative to other states, the top ten oil-rich U.S. states experience approximately 40% more convictions of corruption per capita and 600% more campaign contributions from the oil and gas industry in any given year, on average. We complement these baseline observations with a variety of fixed effects specifications in which measures of oil wealth are interacted with indicators for high oil prices. Consistent with the predictions of the theoretical model, oil-rich states experience more legal and illegal

[1] Some of these recordings are currently available for viewing on YouTube. One in particular, "The Money Shot" (available at: https://www.youtube.com/watch?v=Rg_0q3kHZR8), captures state representative Vic Kohring accepting one hundred dollar bills from oil services company CEO, Bill Allen.

[2] This finding is in line with Glaeser and Saks (2006) who find that the basic cross-country patterns of corruption hold for U.S. states.

corruption relative to other states, and this effect is especially strong during periods of high oil prices. These findings are surprisingly robust to a variety of modeling assumptions and specifications, including alternative definitions of "oil rich". We also estimate a more flexible model that interacts indicators for oil rich with year indicators. This allows us to uncover any non-contemporaneous effects, of which there are few.

Our work makes a number of contributions to existing literature. First, to the best of our knowledge, we are the first to provide causal evidence of the relationship between corruption and oil in the United States. Existing economics and political science literature has surprisingly little to say about this, although cross-country studies support the idea that natural resources—particularly point resources like oil—reduce the quality of democratic institutions and cause corruption (Leite and Weidmann, 1999; Ades and Di Tella, 1999; Treisman, 2000; Bhattacharyya and Hodler, 2010; Vicente, 2010; Arezki and Brückner, 2011; Tsui, 2011; Caselli and Michaels, 2013; Brollo et al., 2013; Caselli and Tesei, 2016). Extending this literature to the U.S. state level offers a number of advantages. First, cross-country comparisons are often frustrated by unobserved heterogeneity and endogeneity bias (Van der Ploeg, 2011).[3] Robust causal inference is more easily achieved using subnational datasets in which relevant factors like institutional quality, language, history, and culture are more homogeneously distributed than in more aggregated settings. Second, while oil tends to be associated with more corruption across countries, it's not obvious that this pattern holds within U.S. states where institutions are relatively strong and evenly distributed. Understanding the relationship between oil and corruption in the U.S. is clearly important and policy relevant. Lastly, corruption data is detailed and arguably more reliable across U.S. states than across countries. This allows for a greater and more robust insight into the determinants of corruption.

[3]Empirical studies that employ panel data with fixed effects or quasi natural field experiments have nonetheless found this phenomenon to be robust (see for example Arezki and Brückner (2011), Caselli and Tesei (2016), or Tsui (2011)). See also Sala-i Martin and Subramanian (2013) for a case study of the Nigerian experience.

Our results also fit into a sizable literature that explores the various causes of corruption. Within the U.S., Glaeser and Saks (2006) find that poorer, and less educated states suffer from relatively high rates of corruption (measured as convictions of corruption). The spatial distribution of people also matters. Campante and Do (2014) find that isolated capital cities are associated with more corruption, more money in state politics, and worse public good provisions across U.S. states. They also provide evidence that newspapers are more likely to cover state politics when readers live nearby the state capital. Across countries, greater exposure to democratic rule and international trade are both associated with less corruption (Treisman, 2000). There is also evidence that corruption is increasing in foreign aid (Okada and Samreth, 2012; Tavares, 2003) and decreasing in the extent of intrusive regulations (Treisman, 2007).

Our findings should be considered in the context of a tangential literature that documents the severe consequences of corruption in the United States. As (Ades and Di Tella, 1999) write, "It is difficult to overstate the economic and social significance of corruption". In fact, corruption in America has been linked to slow economic growth (Glaeser and Saks, 2006; Johnson et al., 2011)[4], income inequality (Apergis et al., 2010), lower state bond ratings (Depken and Lafountain, 2006), less efficient commercial airports (Yan and Oum, 2014), and less stringent environmental policies (Pellegrini and Gerlagh, 2006). Taken together, we conclude that oil —through its effect on political corruption— plays an indirect, critically important, and yet previously overlooked role in shaping public policy and economic outcomes in the United States.

The paper is organized as follows. Section 2 presents an analytical framework that is used to guide our empirical strategy that is discussed in Section 3. Results are given in Section 4, while Section 5 concludes.

[4]See also Mauro (1995) for cross-country evidence for the effect of corruption on economic growth.

2 Theoretical Motivation

We model the relationship between a natural-resource-producing firm and a democratically elected incumbent politician.[5] Corruption is modeled as a *quid pro quo* reduction in the severance tax rate in exchange for either a legal or illegal bribe. Legal bribes are used to fund a political campaign and cannot be used for private consumption (the 1989 Ethics Reform Act outlawed the use of campaign funds to finance private consumption (Caulderwood, Kathleen, 2014)). Illegal bribes (e.g. monetary or non-monetary gifts), on the other hand, explicitly finance the private consumption of the incumbent and cannot be used for a reelection campaign.

In response to receiving a bribe, the incumbent lowers the prevailing severance tax, but this comes at a cost: the probability of reelection is increasing in government spending. There is also a cost associated with accepting illegal bribes; should the incumbent be convicted of illegally accepting bribes the probability of reelection declines.[6]

2.1 The Incumbent

The incumbent decides how many legal and illegal $1.00 bribes to accept in order to maximize her expected utility, modeled as a function of personal consumption and the probability of holding public office. Let the expected utility function of the incumbent be defined

[5] Our framework is related to the theoretical work of Bhattacharyya and Hodler (2010). In that paper, an incumbent politician chooses a level of corruption that maximizes their personal income and likelihood of remaining in office. Constituents vote either for the incumbent or a challenger according to which one gives them a higher level of utility. Because corruption is assumed to reduce non-resource production, but natural-resource rents are exogenously determined, an increase in resource rents allows the incumbent to be more corrupt without sacrificing output. Similarly, Bulte and Damania (2008) model corruption as the result of rent seeking behavior by a government that, in exchange for illegal bribes, provides a resource-sector-specific public good at the expense of the manufacturing sector.

[6] Being convicted of accepting illegal bribes may also result in financial penalties or jail time. We abstract from these possible (and likely) effects, though. The model, outlined below, can be easily modified to account for these additional penalties but doing so does not change the fundamental predictions of the model.

as:

$$\max_{(s_I,s_L)} \mathrm{E}(U_G) = P(N, g, c)Y, \tag{1}$$

where P is the probability of maintaining office and Y is the value of being in office. The value of maintaining office, should the incumbent do so, is the sum of legal income earned as a representative, M, and illegal bribes, s_I.[7] Illegal bribes (kickbacks, cash transfers, gifts, etc.) increase an incumbents income but come at a cost: the more illegal bribes the incumbent accepts, the greater is the likelihood of being caught, which reduces the probability of maintaining office. This is modeled through c, which is equal to the number of illegal bribes accepted, s_I. The probability of maintaining office is increasing and concave in both government spending, g, and in the incumbent's campaign spending, N, which is equal to the amount of campaign contributions accepted, or legal bribes s_L. Government spending is financed by a tax on resource extraction and is the product of the severance tax rate, τ, and the value of resource production. For tractability, we assume that P is additively separable in all of its inputs so that the probability of being elected can be positive even in the event that a government is entirely corrupt, which seems plausible in practice. Similarly, one can imagine a situation in which the incumbent enforces a high severance tax rate, provides a large amount of public goods, and as a result can be re elected without accepting any campaign contributions.[8]

[7] Fisman et al. (2014) finds that, winners of elections experience 3-5% greater personal asset growth than do runner ups in Indian elections.

[8] A more nuanced and detailed model may assume the cross partial derivatives of P are non zero. It should be noted that doing so implies some of the comparative statics derived below have indeterminate signs.

2.2 The Natural-Resource-Extracting Firm

A foreign firm extracts a natural resource in a domestic market in which an incumbent politician has been democratically elected.[9] The price of the natural resource is exogenously determined by international markets, and an incumbent politician chooses the severance tax rate that is levied against the firm. The firm can pay bribes to the incumbent in exchange for a lower severance tax rate. Specifically, the associated profit function of the firm is given by:

$$\pi_F = P_R R(1-\tau) - s_L - s_I, \tag{2}$$

where τ is the severance tax rate, P_R is the exogenously determined resource price, and R is the volume of extraction. Let $\bar{R}$ be the maximum amount of the natural resource that can be extracted. Because the marginal cost of extracting is zero, it follows that $R = \bar{R}|(\tau < 1)$. The severance tax is modeled as,

$$\tau = 1 - as, \tag{3}$$

where $s = s_I + s_L$ is the sum of illegal and legal bribes, respectively. As such, if zero bribes are paid, the severance tax is unity and all rents (equal to revenue given that the resource is assumed to be costlessly extracted) are directed to the government of the resource-rich economy. The endogenous variable a defines how sensitive the tax rate is to bribery. A large a, for example, implies that a small amount of bribery is needed to finance a relatively large reduction in the severance tax. Note that the firm will supply \$1.00 bribes whenever the marginal revenue of giving a bribe ($aP_r\bar{R}$) exceeds the marginal cost of a bribe (\$1.00). We assume that the incumbent has perfect information, and so in exchange for a \$1.00 bribe, the government will therefore offer to reduce the severance tax rate by $aP_r\bar{R} + \epsilon$. It follows

[9] Alternatively, the firm may be domestic but owned by one of a sufficiently large number of constituents such that any severance tax is effectively not levied against the constituency.

that:

$$a = \frac{1}{P_r \bar{R}}. \tag{4}$$

2.3 Equilibrium

Substituting equation (4) into equation (1) and recalling that government spending, g, is equal to severance tax revenue defines incumbent utility as a function of two choice variables: the number of \$1.00 legal and illegal bribes to accept:

$$\max_{(s_L, s_I)} \mathrm{E}(U_G) = P(s_L, P_R R - s_L - s_I, s_I)(s_I + M). \tag{5}$$

Taking the derivative of (5) with respect to the two choice variables, s_L and s_I gives

$$\frac{\partial \mathrm{E}(\cdot)}{\partial s_L} = \left(\frac{\partial P}{\partial N} - \frac{\partial P}{\partial g}\right)(s_I + M) = 0, \tag{6}$$

and

$$\frac{\partial \mathrm{E}(\cdot)}{\partial s_I} = P + \left(\frac{\partial P}{\partial c} - \frac{\partial P}{\partial g}\right)(s_I + M) = 0. \tag{7}$$

First-order condition (6) says that the incumbent will accept legal bribes up until the marginal cost is equal to the marginal benefit of doing so. Similarly, first-order condition (7) says that illegal bribes are accepted until the probability of maintaining office (the marginal benefit of accepting an illegal bribe) is equal to the marginal reduction in the probability of maintaining office. Applying the Implicit Function Theorem to first-order-condition (6) reveals that, holding all else constant, legal bribes are decreasing in illegal ones:

$$\frac{\partial s_L}{\partial s_I} = -\frac{\overbrace{\frac{\partial^2 P}{\partial g^2}}^{(-)}}{\underbrace{\frac{\partial^2 P}{\partial N^2} + \frac{\partial^2 P}{\partial g^2}}_{(-)}} < 0, \tag{8}$$

and that $\frac{\partial s_L}{\partial s_I} = -\frac{\partial s_L}{\partial P_R R}$. Substituting equation (8) into (7), and applying the Implicit Function Theorem implies that increasing the value of resource production increases the number of illegal bribes that are accepted:

$$\frac{ds_I}{dP_R R} = \frac{\overbrace{\frac{\partial P}{\partial g}\left(1 - \frac{\partial s_L}{\partial P_R R}\right) + \frac{\partial P}{\partial N}\frac{\partial s_L}{\partial P_R R} - \frac{\partial^2 P}{\partial g^2}(s_I + M)\left(1 - \frac{\partial s_L}{\partial P_R R}\right)}^{(+)}}{\underbrace{\frac{\partial P}{\partial g}\left(1 + \frac{\partial s_L}{\partial s_I}\right) - \left[\frac{\partial^2 P}{\partial g^2} + \frac{\partial^2 P}{\partial c^2}\left(1 - \frac{\partial s_L}{\partial P_R R}\right)\right](s_I + M)}_{(+)}} > 0 \tag{9}$$

Because $0 < \frac{\partial s_L}{\partial P_R R} < 1$ and $0 > \frac{\partial s_L}{\partial s_I} > -1$ it follows that equation (9) is positive. This is the first key testable prediction of the model. Namely, holding all else constant, an increase in the value of resource production increases illegal forms of corruption. Similarly, an increase in the value of production also increases legal corruption which is given by the sum of the direct and indirect effects:

$$\frac{ds_L}{dP_R R} = \frac{\partial s_L}{\partial P_R R} + \frac{\partial s_L}{\partial s_I} \times \frac{ds_I}{dP_R R}. \tag{10}$$

Recalling that $\frac{\partial s_L}{\partial s_I} = -\frac{\partial s_L}{\partial P_R R}$, and substituting this equality into equation (10) gives

$$\frac{ds_L}{dP_R R} = \frac{\partial s_L}{\partial P_R R}(1 - \frac{ds_I}{dP_R R}) > 0, \tag{11}$$

which is greater than zero given that equation (9) is clearly less than 1. This is the second key prediction of the model; an increase the value of the natural resource (either due to natural-resource discoveries or a positive price shock for example), increases legal forms of corruption (defined as campaign contributions). In the following section, we describe our analysis that is designed to test whether positive resource shocks increase legal and illegal forms of corruption.

3 Empirical Strategy

3.1 Identification

We estimate the effect of oil production on political corruption using panels of data across all U.S. states from 1976 to 2017. We measure resource production as the value of oil production.[10] We estimate a variety of models, each offering points of strength but also some limitations. In our baseline specification, we regress various measures of corruption on the value of energy production in year t and state i. Because production is ultimately endogenous to potentially meaningful factors (e.g., certain types of political corruption may induce additional drilling and oil exploration), we measure the value of production as the interaction of the real price of imported crude oil (2000 is the base year) and a state's oil "endowment", which is defined as the volumetric sum of total oil production up to 2017 and proved oil reserves as of 2017, per capita. Specifically, we estimate variations of equation (12):

$$\ln(y)_{it} = \gamma_0 + \gamma_1 \text{Oil Price}_t + \gamma_2 \ln(\text{endowment})_i + \gamma_3 \ln(\text{endowment})_i \times \text{Oil Price}_t + \epsilon_{it}, \quad (12)$$

where y_{it} is the outcome variable of interest (e.g., corruption convictions, corruption reflections, campaign contributions, etc.) measured in state i during year t, while ϵ is an

[10] The extent of political corruption is believed to be most sensitive to so-called "point resources", especially fossil fuels such as oil (Isham et al., 2005).

idiosyncratic error term. Modeled this way, γ_3 is roughly interpreted as the percent change in corruption that results from a $1.00 change in the real price of oil for a state endowed with one unit of oil. We estimate equation (12) using an Ordinary Least-Squares (OLS) estimator allowing for unobserved heterogeneity to be correlated within states by clustering standard errors at the state level.

There are a couple of potential drawbacks associated with estimation equation (12). The first is the supposition of linearity, which may not hold in this setting; it is not hard to imagine kinks, thresholds, or non linearities in the elasticity of corruption with respect to oil production. Second, there may be lags between the production of oil, and the conviction of public officials. To address some of these concerns, we estimate an alternative, more flexible non-parametric model in differences in which indicators for oil production are interacted with indicators for periods of high oil prices. We specifically estimate variations of equation (13) below:

$$\ln(y)_{it} = \delta_0 + \delta_1 1[HighOil]_t + \delta_2 1[OilRich]_i + \delta_3 1[HighOil]_t \times 1[OilRich]_i + \nu_{it}, \quad (13)$$

where $1[HighOil]_t$ is an indicator for high oil prices, $1[OilRich]_i$ is a time-invariant indicator for oil wealth in state i, and ν_{it} is the idiosyncratic effect. We specifically define high oil prices as existing from 1976-1985, and from 2003-2017 (see Figure 1). For the baseline specification, $1[OilRich]_i$ equals one for the ten states with the greatest endowment of oil per capita, averaged from 1976 to 2017. See Table A.1 (Appendix) for a list of the top ten producing states. As with the first estimation equation, because $1[OilRich]_i$ is time invariant, and $1[HighOil]_t$ is determined by international markets, the interaction term is exogenous from the perspective of any individual state. Alternative model specifications include controls for education attainment, income, and population density as well as year and state fixed effects. We again estimate equation (13) using an OLS estimator. In this case, δ_2 is the effect of a $1.00 increase in the price of oil in oil-poor states, and δ_3 is the average additional effect in oil rich ones.

[FIGURE 1 AROUND HERE]

3.2 Data Description

3.2.1 Corruption Indicators

We use several indicators of corruption, two of which come from the Institute for Corruption Studies (ICS), a research institute within the Department of Economics at the Illinois State University.[11] The first indicator is the Corruption Convictions Index (CCI) that measures the number of total corruption-related convictions informed by the Public Integrity Section (PIS) of the United States Justice Department, deflated by population levels in each state and year. The PIS prosecutes both elected and appointed state and local public officials at all levels of government for crimes related to corruption, and reports the total convictions annually. We make use of this index at the state level from 1976 to 2015.

There are some advantages and disadvantages of using this dataset. One advantage is that it offers an objective, quantitative measure of corruption across the U.S. states and time. In addition, the data covers public corruption convictions in federal courts only, which helps to mitigate the concern that state-specific convictions reflect, to some degree, efforts to prosecute. In theory, the Justice Department applies the law evenly across the U.S. states but this is not verified. However, to the extent that corrupt public officials are successfully prosecuted by state and local law enforcement agencies, then the CCI is an incomplete measure of corruption, and may bias our point estimates toward zero. Perhaps most problematic is the construction of the CCI. The PIS surveys U.S. district attorneys in March about their corruption cases during the preceding calendar year and it is unclear whether district attorneys carefully or completely report incidences of corruption (Cordis and Milyo, 2016). In light of this, we alternatively measure corruption convictions using

[11] Available at https://greasethewheels.org/. Retrieved on May, 2019.

data collected from the Transactional Records Access Clearinghouse (TRAC), a nonprofit organization that uses Freedom of Information Act requests to collect government records of corruption convictions. Whereas this data is not survey based, it is only available from 1986 onward and like the CCI, it is limited to federal convictions of public employees.

Our preferred measure of illegal corruption is the Corruption Reflection Index (CRI), which was obtained from the ICS as well. The data, created by Dincer and Johnston (2014), is constructed from corruption stories in Associated Press (AP) news wires, which covers federal, state, and local political scandals. In particular, the authors count the number of times that the words "corrupt", "fraud", and "bribe" (and their iterations such as "corruption" or "fraudulent") appear in news articles (or pages), which gives a measure of the press coverage given to stories related to corruption, fraud, or bribe. One of the main advantages of using news from the AP is the minimization of any potential media bias that might be present in local newspapers. However, the CRI is not limited to convictions as it covers allegations, trials, and appeals as well. This is the main reason why, according to Dincer and Johnston (2014), this index should be considered a "reflection of corruption" instead of a corruption measure itself. The authors deflate this measure by the number of appearances of the word "political" (and its iterations) in related searches, which is roughly equivalent to controlling for the size of government. Descriptive statistics for these variables are displayed in panel A of Table 1.

[TABLE 1 AROUND HERE]

While we cannot explicitly test which measure of corruption is most accurate and relevant for our purposes, we can shed some light on this question by testing whether major political scandals and infamous corruption cases are reflected by each of the three measures of corruption. We consider the following cases. The first is the prosecution and conviction of Alaska's "Corrupt Bastards". News broke of the investigation in 2006, and the case unfolded over the next several years. This is a quintessential example of the type of corruption we aim to measure and so it is important that this event is reflected in the corruption data. Second, we consider two events in Oklahoma: the 1980 convictions of some 220 county commissioners and construction suppliers for a scheme involving kickbacks for road and building supplies and the 2000 political scandal involving the Oklahoma Department of Public Health (Holloway, 2019). Third, we examine two cases in Louisiana: in 1985 the governor of Louisiana, Edwin Edwards, was charged with racketeering and bribery and in 1996 the same governor had his office raided by the FBI and he was later convicted on seventeen counts of racketeering, bribery, and fraud (Honeycutt, 2009). Lastly, in 1985 the president of the Mississippi State Senate, Tommy Brooks was arrested in the capital building and convicted of extortion involving a horse-racing bill (Harrist, 1985).

[FIGURE 2 AROUND HERE]

Figure 2 gives the three measures of corruption (i.e. CRI, CCI, CCI TRAC) across the four states considered: Alaska, Oklahoma, Louisiana, and Mississippi. Starting with Alaska (panel a), the "Corrupt Bastards" scandal is reflected by the CRI, but not the other two measures that reflect convictions. Similar results are found for Oklahoma (panel b), though both the CRI and CCI (TRAC) seem to reflect, to some degree, the 1980 case involving the kickbacks to county commissioners. Only the CRI reflects the 2000 scandal involving the Public Health Department. Consonant results are found for Louisiana; both the corruption scandals there are only reflected by the CRI. Finally, the arrest of the President of the Mississippi State Senate in 1985 seems to have been widely publicized, and it is not reflected in either of the convictions indices (see panel d). These results uncover an important aspect of major political scandals; they often involve only a small number of politicians (and often a single politician), and so do not significantly affect the aggregate number of convictions in a given state and year. On the other hand, significant malfeasance may garner media attention and so these events are reflected in the CRI. Given these results, our preferred measure of illegal corruption throughout the paper is the CRI index, though, for robustness we estimate results for each of the three measures.

3.2.2 Campaign Contributions

We measure "legal corruption" using campaign contributions received by state and local public officials on behalf of the "Energy & Natural Resources" industry, particularly the Oil & Gas sector.[12] We gather the data form the National Institute on Money in State Politics (NIMSP), through the "Follow the Money" website.[13] NIMSP is a nonprofit organization that maintains a comprehensive and detailed database that lists all contributions received by state politicians, namely state house/assembly members, state senate members, governors and other state executive officials, from 2000 to 2017, along with the corresponding donor industry.[14]

Our focus is on campaign contributions flowing from the "Oil & Gas" industry, yet we are unable to account for the influence of "dark money". That is, money spent by independent nonprofit organizations on behalf, but legally independent of, the law maker that is holding or running for office. Therefore, we are not capturing total contributions flowing to state politicians. Our analysis is still useful as it provides a lower bound of the effect of natural resources wealth on legal corruption. One would certainly expect that if oil abundance causes more money to be injected into the state and local political process, this would be reflected by variation in spending coming from the Oil & Gas industry. Descriptive statistics for this variable added up at both the state-level and party-state-level are in panel B of Table 1.

3.2.3 Oil & Demographics

Our data on oil production come from the Energy Information Administration (EIA) for all the 50 states from 1976 to 2017. Oil prices also come from EIA and reflect the

[12] Energy & Natural Resources is one of 19 categories defined by the national Institute on Money in State Politics. it is made up of a set of sub-industries including: aluminum mining & processing, commercial fishing, electric utilities, environmental services & equipment, fisheries & wildlife, hunting, mining, miscellaneous energy, miscellaneous energy & natural resources, nuclear energy, oil & gas, railroads, smelting and refining, steel, waste management, water utilities, and wide use.

[13] Available at https://www.followthemoney.org. Retrieved in July 2019.

[14] Although the full dataset covers years during the 90's as well, we exclude early years from our analysis due to the high number of states with missing information.

first purchase price of domestic crude oil, averaged across the United States. We deflate oil prices using the Consumer Price Index from the Bureau of Labor Statistics. To compute total oil "Endowment", we sum the volume of oil produced from 1976 to 2017 and proved reserves as of 2017. Proved reserves are also provided by the EIA and are defined as, "the estimated quantities of all liquids defined as crude oil, which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions". Descriptive statistics for these variables are in panel C of Table 1.

While the exogeneity of our main explanatory variables helps to address concerns of reverse causality, there remains a possibility of endogeneity bias due to spurious correlation. For instance, Maxwell and Winters (2005) find that smaller, more educated states are significantly less corrupt, and that per capita real income, unlike other research (e.g. Alt and Lassen (2003)), is insignificantly correlated with corruption. If oil happens to be correlated with, say, sparse population density and corruption is correlated with population density, our cross-sectional estimates will be biased. We therefore control for a variety of factors known to be correlated with corruption. Population and income data are collected from the Bureau of Economic Analysis, Regional Economic Accounts, from 1980 to 2015. Per capita income is in real terms, with 2000 as the base year. State geographic size is from theus50.com and we compute average state population density using the population data collected from the Bureau of Economic Analysis. We compute the average level of educational attainment as well by dividing the the number of adults with a college degree in each state by the state population, and average it over the sample period. The data on educational attainment come from the U.S. Census Bureau for 1970, 1980, 1990, 2000, and from the American Community Survey for 2013-2017.

4 Results

4.1 Illegal Corruption

We start by estimating equation (12) for illegal corruption. These results are given in Table 2. Column (1) reports the unconditional relationship between ln(*endowment*) and each of the three measures of corruption and does not include year or state fixed effects. This reveals whether, in any given year, states with high oil endowment are relatively corrupt. Columns (2), (3), and (4) include oil endowment, oil price, and their interaction with various combinations of fixed effects. Finally, columns (5) and (6) repeat column (3) and (4) after dropping Alaska from the data set. This is important because we want to test whether oil corrupts generally, or if it is a unique Alaskan experience.

[TABLE 2 AROUND HERE]

From equation (12), we find that oil endowment is, on average, uncorrelated with corruption. In fact, averaged across all years, Endowment is actually negatively correlated with the CRI (reflections of corruption, provided in panel A). However, the interaction of endowment and the real price of oil enters positive and significant for both the CCI (TRAC) and CRI, with and without Alaska included in the dataset. For example, we find that a $1.00 increase in the price of oil leads to a .07% increase in the CRI (our preferred measure of corruption) and a .08% increase in the CCI (TRAC) for states endowed with one unit of oil per capita. This result is both statistically and economically significant. For example, for the top five oil-producing states, average ln(*endowment*) is 2.31.[15] This implies that, for these states, a $10.00 increase in the price of oil results in a $\$10.00 \times .07\times 2.31 = 1.61\%$ increase and a $\$10.00 \times .08 \times 2.31 = 1.8\%$ increase in the CRI, and the CCI (TRAC), respectively. Indeed, the price of oil increased roughly from $20.00 to $70.00 per barrel between 2000 and 2008. Our results imply that, for the top five oil-rich states then, this large oil-price shock increased

[15] Recall that oil endowment is measured as thousands of barrels of oil produced or proven to exist per capita.

the CRI by roughly 8% and the CCI (TRAC) by 9%. Figure 3 plots the marginal effect of a $1.00 increase in the oil price by oil endowment.

[FIGURE 3 AROUND HERE]

The results from the estimation of equation (13) are given in Table 3. For our baseline specification, recall that *OilRich* is equal to unity for the top ten oil-producing states over the sample period and zero otherwise. *OilBoom* is equal to unity for the years 1976-1985 ("1980s Boom") and 2003-2017 ("2000s Boom"). Similar to Table 2, we first report the average unconditional effect of being a top 10 oil producer (column 1), then add controls (column 2), and include the interaction of *OilBooms* and *OilRich* (columns 3, 4 and 5). We also estimate effects pooling the two booms together, and for each of the booms separately. Finally, we estimate the main interaction effects with and without Alaska included in the dataset.

[TABLE 3 AROUND HERE]

Our results indicate that the top ten oil-producing states have, on average, roughly 40% more convictions of corruption per capita than oil-poor states, a result that is robust to controlling for education, income, and population density. Examining the interaction effects, we find that during periods of low oil prices, oil-rich states experience about as much corruption as any other state (all of the coefficients on *OilRich* in column 3 enter insignificantly). However, during periods of high oil prices (column 3), we see that reflections of corruption are roughly 21% greater in oil rich states compared to the oil poor ones. We document similar results for convictions of corruption using the TRAC data. From column 5, there is some interesting heterogeneity in treatment effects based on the timing of the energy boom. For instance, the coefficient on the interaction term is .306 for the 1980s boom and just .123 for the 2000s boom. Similarly, the coefficient on the interaction term for the CCI is .472 for the 1980s boom and .073 for the later boom. One potential explanation for this is that institutions, trust in government, and corruption tend to be persistent over time (Becker et al., 2016). If the initial energy shock permanently corrupted state governments to some degree, one would expect to find less significant effects of the latter boom.

4.2 Legal Corruption

To measure how oil influences legal forms of corruption, we re-estimate equations (12) and (13) defining y_{it} as the real value of campaign contributions to candidates for state and local public offices from the oil and gas industry, per capita. Table 4 gives the results from the estimation of equation (12) and shows that, regardless of the price of oil, oil endowment is positively correlated with campaign contributions. For state-wide campaigns across all model specifications, the coefficient on ln(*endowment*) varies between .183 and .277, implying that a one percent increase in oil endowment leads to a roughly 20%-31% increase in campaign contributions. Surprisingly, this feature of campaign finance in oil-rich states is constant across periods of low and high oil prices. As can be seen in columns (3) and (4), the coefficient on the interaction of ln(*endowment*) × Oil Price (.001) is insignificant for all specifications (for state-wide campaigns). However, dropping Alaska from the dataset causes the coefficient to double to .002, and becomes statistically significant (at the 10% level). This implies that, for the continental United States, a \$10.00 increase in the price of oil leads to a 2% increase in campaign contributions for for states endowed with one unit of oil. For the top five oil-rich states, recall that ln(*endowment*)=2.31, implying that a \$10.00 increase in the oil price leads to a $10 \times 2.31 \times .002 = 4.6\%$ increase in campaign spending (and a \$50.00 increase in the price of oil leads to a 23% increase.[16]

[TABLE 4 AROUND HERE]

[16] We are not the first to estimate the effect of energy booms on campaign contributions. In their analysis of the shale boom, (Sances and You, 2019) find that for each additional oil and gas well, total campaign contributions increased by 0.7%. It is difficult to compare this estimate to ours given that we are not measuring the number of wells, and that we estimate the effect of the shale boom on campaign spending by the oil and gas industry only.

The results from the estimation of equation (13) are given in Table 5. Averaged across all years, campaign contributions in the top ten oil-rich states are roughly 600% greater than in oil-poor states (column 1 of panel A).[17] Conditioning on education attainment, income, and population density reduces the estimated effect of *OilRich* to 441% and remains statistically significant (column 2). Splitting the sample up according to gubernatorial campaigns (panel B), state-house campaigns (panel C), and state-senate campaigns (panel D) shows that regardless of the type of campaign, candidates running for office in oil-rich states receive significantly more campaign contributions than those running in oil-poor states. Column (3) reports the relationship between campaign contributions and the interaction term *OilRich* $\times$ *OilBoom*. For all types of campaigns, the interaction term enters positive but lacks statistical significance. Taken together, these results suggest that candidates running for public office in oil-rich states receive significantly more contributions from the oil and gas industry, regardless of whether oil prices are high or low. Interestingly, dropping Alaska from the dataset significantly increases the coefficient on the interaction term and it becomes statistically significant at the five percent level for all campaign types. For state-wide campaigns, the coefficient is .848, implying that candidates running for public office in oil-rich states receive 133% more campaign contributions from the oil and gas industry when oil-prices are high relatively to when they are low.

[TABLE 5 AROUND HERE]

4.3 Robustness

We carry out a variety of robustness checks to gauge the sensitivity of our results to the various modeling assumptions and specifications employed in our baseline analysis. Our results are fairly robust. For example, oil endowment is log-transformed in estimation equation (12) to account for potential outliers (e.g., Alaska and Wyoming). We also estimate a variant of equation (12) for both legal and illegal forms of corruption in which endowment

[17] Note that $e^(1.956) - 1 = 6.07$.

(rather than log endowment) is interacted with the price of oil. These results (given in Tables A.2 and A.3 in the Appendix) are similar to the baseline logged results. We continue to document a positive direct effect of endowment on both measures of corruption convictions, and the interaction term is positive and significant only for the CRI. Dropping Alaska, we find that the interaction term is positively associated with both the CRI and CCI (TRAC).

We also estimate (13) using alternative bins for "Oil Rich", with results in Tables A.4, A.5, A.6, A.7 (Appendix). The results for illegal corruption are somewhat sensitive to the definition of $OilRich$. Recall that, defining $OilRich$ using the top ten threshold, the coefficient on the interaction term $OilRich \times OilRich$ was .19 for the CRI. This coefficient drops to .163 (but remains significant at the 5% confidence level) when using a top five threshold. Defining Oil Rich as being a top twenty oil producer, this coefficient drops in magnitude and becomes statistically insignificant. Results for CCI and TRAC are somewhat more robust in this regard. After dropping Alaska from the dataset we find that there are more convictions of corruption (according to the TRAC data) in the top 20 oil-rich states, but only during the oil-price boom of the 2000s (recall that we cannot use the TRAC data to examine the 1980s oil-price boom). Defining "Oil Rich" using a top five or top twenty threshold, we continue to find that political candidates in oil-rich states receive more campaign contributions than those in oil-poor states, and in some scenarios (e.g., dropping Alaska and defining Oil Rich as the top 20 oil producers), this is especially true during periods of high oil prices.

In addition to varying the definition of $OilRich$, we also vary the definition of "Oil Boom". While the price of oil did start to climb in 2003, the shale-energy boom lagged a few years behind this. For this reason, many authors use 2005 or 2006 as the event year when studying the effects of the shale boom (see for example James and Smith (2017)). We therefore alter our definition of the 2000s oil boom to include the years 2006-2017 and also limit the 1980s boom to the years 1979-1985. The estimation of equation (13) using these alternative boom year definitions are given in Tables A.8 and A.9 for illegal and legal corruption, respectively.

Using our baseline definition of *OilRich* (top ten producer) for illegal forms of corruption, we find that oil-rich states continue to have roughly 39%-68% more convictions of corruption than oil-poor states. Across all specifications, the coefficient on the interactions term is positive, though statistical significance is sometimes lacking. The results for legal corruption using the alternative "Oil Boom" definition are given in Table A.9. The coefficient on the interaction term varies between 0.47 (60%) for state senate campaigns and 1.03 (180%) for state house campaigns.

One key identifying assumption of our estimation strategies is that, prior to the two oil-price booms, rates of corruption were evolving similarly across both oil-rich and oil-poor states. To test for preexisting trend in the effect of being heavily endowed with oil, and to shed greater insight onto the contemporaneous relationship between oil shocks and political corruption, we estimate a variant of equation (13) in which the treatment variable $1[OilRich]$ is interacted with year indicators. For this specification, we considered using the "Bust" period (the years of 1986-2002) as the reference set of years but opted for a shorter reference period to better reveal any trends that may exist in the lead up to the shale boom. Therefore, we estimate the effect of being oil rich in year t, relative to the effect of being oil rich during the period 1986-1990. For this specification we include year and state fixed effects and continue to cluster standard errors at the state level.

The estimated annual treatment effects for illegal corruption are given in Figures A.1, A.2, and A.3 for the five, ten, and twenty oil-rich state thresholds, respectively, for added robustness. Using our baseline top-ten threshold, we see that the CRI rises and falls in tandem with the timing of the two energy booms. For example, for the years 1978, 1979, and 1980, the estimated treatment effect is roughly 0.58, implying that, relative to the 1985-90 period, the top ten oil-rich states had roughly 78% more corruption than in oil-poor states. Following the 1985-1990 reference period, the estimated effect of being oil rich is zero until 2006 when it increases to roughly .36 (amounting to a 43% increase), and then to .50 (amounting to 64%) in 2012. This result is largely echoed using the alternative measures of corruption based off of convictions. Recall that the TRAC data is only available from 1985-2017. Therefore, we use the same reference set of years (1985-1990) and estimate the effect of the more recent shale energy boom only. We find that the effect of being oil rich is zero until 2004, and is intermittently statistically significant thereafter. By 2017 the estimated treatment effect is .70, implying that, relative to the earlier reference set of years, oil-rich states had roughly 100% more convictions of corruption per capita than oil-poor states.

The results for legal contributions are given in Figures A.4, A.5, A.6 for all the three oil-rich groups. These results support the idea that the more recent oil price shock of the 2000s caused campaign contributions to rise. For contributions to gubernatorial candidates, the results are sensitive to whether the reelection year coincides with a presidential election. The magnitude of the coefficients is greatest using the five state threshold, which is unsurprising. Using the baseline ten state threshold, depending on the office the estimated treatment effect in 2012 ranges from roughly 1-2 log points (corresponding to roughly a 170% increase for state senate races and a 600% for gubernatorial races).

5 Conclusions

The natural-resource and development literature has long recognized the potential for natural resources to corrupt public officials and there is ample cross-country empirical evidence is support of this idea (e.g. Leite and Weidmann (1999); Ades and Di Tella (1999); Treisman (2000); Bhattacharyya and Hodler (2010); Vicente (2010); Arezki and Brückner (2011); Tsui (2011); Caselli and Michaels (2013); Brollo et al. (2013); Caselli and Tesei (2016)). Herein we extend this literature to include an analysis of U.S. states where institutional quality is more evenly distributed, the data is relatively rich and reliable, and unobserved heteroeneity is minimized.

While the main contribution of this paper is an empirical one, the analysis is motivated by a simple theory in which an incumbent politician is paid both legal and illegal bribes from a natural-resource-extracting firm in exchange for reducing an existing severance tax rate. An increase in the value of the natural resource causes the firm to accept a smaller reduction in the severance tax in exchange for a bribe and hence more bribes (of both types) are paid.

We test the predictions of the model using panels of U.S state data. Baseline specifications include data from all 50 states and the years 1976-2017. Cross-state comparisons show that oil-rich states experience roughly 40% more convictions of corruption per capita in any given year, on average. Similarly, candidates for political office in oil-rich states receive significantly more campaign contributions from the oil and gas industry than candidates from oil-poor ones. Exploiting within-state variation in the value of energy production reveals that both forms of corruption tend to increase during periods of high oil prices. For example, we estimate that a $50.00 increase in the price of oil increases reflections of corruption by roughly 8% and convictions of corruption by a similar amount. The results for legal forms of corruption are even more pronounced. We estimate that in 2012, campaign contributions to gubernatorial candidates in the top ten oil-rich states were roughly 600% greater than they would have been in the absence of the oil-price shock.

These results are important because political corruption in the United States has been linked to slow economic growth (Glaeser and Saks, 2006; Johnson et al., 2011), income inequality (Apergis et al., 2010), lower state bond ratings (Depken and Lafountain, 2006), less efficient commercial airports (Yan and Oum, 2014), and less stringent environmental policies (Pellegrini and Gerlagh, 2006). Taken together, we conclude that natural resources—and oil in particular—play a profound yet indirect role in shaping economic outcomes and public policy in the United States. Policy makers in oil-rich states should anticipate the corrupting influence of oil and implement policies to strengthen political institutions accordingly.

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Figures and Tables

Figure 1: Oil Booms and Bust

Note: The 1980s boom is defined from 1976 until 1985, while the 2000s boom goes from 2003 until 2017. Crude oil first purchase prices are real (2000 is the base year). Data obtained from the EIA.gov.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min.	Max.	Obs.	Years
Panel A. Corruption Indicators (Illegal Corruption):						
Corruption Reflections Index (CRI)	0.286	0.20	0	2.159	1,850	1977-2013
# Words “Corrupt, Fraud, Bribe”	100.15	157.19	0	1,425	1,850	1977-2013
# Words “Politic”	353.87	447.19	3	3,000	1,850	1977-2013
Corruption Convictions Per Capita (TRAC)	2.53	5.81	0	98.27	1,668	1985-2017
Corruption Convictions Index (CCI)	3.012	3.03	0	33.846	1,950	1976-2015
Panel B. Political Contributions (Legal Corruption):						
Campaign Contributions/1,000 inhab.	81.62	158.08	0	1,062.20	398	2000-2016
to Gubernatorial Campaigns	55.39	102.82	0.22	699	189	2000-2016
to State-House Campaigns	31.66	56.03	0.05	421.84	352	2000-2016
to State-Senate Campaigns	19.41	35.51	0.11	247.69	345	2000-2016
to Democratic Party	23.99	47.75	0.02	497.17	357	2000-2016
to Republican Party	65.67	132.62	0.02	943.23	361	2000-2016
Panel D. Resource-Related Variables:						
Oil Price (real $)	35.55	18.29	11.48	75.22	41	1976-2017
Oil Production	43,466.79	131,295.50	0	1,272,575	2,050	1976-2017
Proved Oil Reserves (2017)	1,491.22	3,336.26	5	15,936	50	2017

Note: Corruption convictions per capita (TRAC data) is per million population. Campaign contributions are total contributions per thousand population from the Oil & Gas industry to politicians running for state senate, state house, governor, and other statewide public offices during even years. The Ranney Index is the folded index averaged over the last four years. Oil price is the annual crude oil first purchase price in real terms (2000 as the base year). Oil production is defined as thousands of barrels per year.

Table 2: Ln(Oil Endowment), Oil Prices, and Illegal Corruption

	All States				Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Corruption Reflections Index:						
ln(endowment)	-0.072***	-0.095***	-0.070**	-	-0.057**	-
	(0.018)	(0.021)	(0.024)	-	(0.023)	-
Oil Price		-0.005	-0.005	-0.005*	-0.003	-0.005*
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ln(endowment) × Oil Price		0.0007**	0.0007**	0.0007**	0.0007*	0.0007**
		(0.0003)	(0.0003)	(0.0003)	(0.0004)	(0.0003)
Obs.	1,141	1,141	1,141	1,141	1,104	1,104
Panel B. Convictions Per Capita (TRAC):						
ln(endowment)	0.036	0.006	0.023	-	0.002	-
	(0.028)	(0.036)	(0.030)	-	(0.030)	-
Oil Price		-0.031*	-0.030*	-0.002	-0.032*	-0.001
		(0.016)	(0.015)	(0.004)	(0.016)	(0.004)
ln(endowment) × Oil Price		0.0008	0.0008*	0.0008*	0.001**	0.0009*
		(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Obs.	906	906	906	906	884	884
Panel C. Corruption Convictions Index:						
ln(endowment)	0.032	0.018	0.040	-	0.030	-
	(0.019)	(0.031)	(0.030)	-	(0.032)	-
Oil Price		0.128***	0.130***	0.025***	0.142***	0.026***
		(0.030)	(0.029)	(0.005)	(0.030)	(0.005)
ln(endowment) × Oil Price		0.0003	0.0003	0.0004	0.0004	0.0005
		(0.0007)	(0.0007)	(0.0007)	(0.0008)	(0.0008)
Obs.	1,144	1,144	1,144	1,144	1,115	1,115
Controls			×		×	
Year fixed effects		×	×	×	×	×
State fixed effects				×		×

Note: Using oil endowment in logs. All outcome variables are in logs. Oil endowment is defined as the aggregated oil production over time plus oil reserves during 2017, divided by the average population across the sample period. Oil price is the crude oil first purchase price in real terms (2000 as the base year). Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$

Table 3: Illegal Corruption: Top 10 Oil-Producing States

	All States					Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Corruption Reflections Index:							
1[Oil Rich]	-0.155	-0.001	-0.253				
	(0.159)	(0.140)	(0.184)				
1[Oil Booms]			-0.064*				
			(0.038)				
1[Oil Rich]× 1[Oil Booms]			0.191*	0.200*		0.209*	
			(0.107)	(0.107)		(0.117)	
1[Oil Rich]× 1[1980s Boom]					0.306**		0.355**
					(0.137)		(0.140)
1[Oil Rich]× 1[2000s Boom]					0.123		0.103
					(0.135)		(0.147)
Obs.	1,842	1,842	1,842	1,842	1,842	1,805	1,805
Panel B. Convictions Per Capita (TRAC):							
1[Oil Rich]	0.397*	0.521**	0.187				
	(0.205)	(0.207)	(0.226)				
1[Oil Booms]			-0.074				
			(0.076)				
1[Oil Rich]× 1[Oil Booms]			0.427**	0.439**		0.485***	
			(0.158)	(0.136)		(0.136)	
1[Oil Rich]× 1[1980s Boom]					-		-
					-		-
1[Oil Rich]× 1[2000s Boom]					0.439**		0.485***
					(0.136)		(0.136)
Obs.	1,366	1,366	1,366	1,366	1,366	1,344	1,344
Panel C. Corruption Convictions Index:							
1[Oil Rich]	0.335**	0.391**	0.228				
	(0.160)	(0.159)	(0.189)				
1[Oil Booms]			-0.203**				
			(0.059)				
1[Oil Rich]× 1[Oil Booms]			0.198	0.205		0.215	
			(0.146)	(0.149)		(0.161)	
1[Oil Rich]× 1[1980s Boom]					0.472		0.425
					(0.290)		(0.309)
1[Oil Rich]× 1[2000s Boom]					0.073		0.112
					(0.150)		(0.157)
Obs.	1,753	1,753	1,753	1,753	1,753	1,724	1,724
Controls		×					
Year fixed effects				×	×	×	×
State fixed effects				×	×	×	×

Note: Outcome variables in logs. The indicator 1[Oil Rich] takes 1 for the top 10 oil-producing states (=0 otherwise), while 1[Oil Booms] takes 1 for all years between 1976-1985 and between 2003-2017 (=0 otherwise). Results in columns (1)-(3) are obtained with an OLS estimator, and results in column (4) with a fixed-effects panel data estimator. Controls include state-level population density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

Table 4: Ln(Oil Endowment), Oil Prices, and Legal Corruption

	All States				Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. State-Wide Campaigns:						
ln(endowment)	0.277***	0.213**	0.215**	-	0.183**	-
	(0.047)	(0.071)	(0.082)	-	(0.080)	-
Oil Price		-0.001	0.029	0.009	0.107	0.012**
		(0.276)	(0.270)	(0.006)	(0.266)	(0.006)
ln(endowment) × Oil Price		0.001	0.001	0.001	0.002*	0.002*
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Obs.	270	270	270	270	261	261
Panel B. Gubernatorial Campaigns:						
ln(endowment)	0.271***	0.177**	0.160	-	0.137	-
	(0.051)	(0.074)	(0.094)	-	(0.092)	-
Oil Price		0.758	0.757	0.009	0.759	0.011
		(0.559)	(0.570)	(0.011)	(0.571)	(0.010)
ln(endowment) × Oil Price		0.002*	0.002	0.002	0.002**	0.002**
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Obs.	114	114	114	114	110	110
Panel C. State-House Campaigns:						
ln(endowment)	0.263***	0.222**	0.228**	-	0.191*	-
	(0.049)	(0.097)	(0.096)	-	(0.096)	-
Oil Price		-0.195	-0.141	0.007	-0.069	0.010
		(0.399)	(0.390)	(0.008)	(0.395)	(0.008)
ln(endowment) × Oil Price		0.0008	0.0009	0.0009	0.0015	0.0014
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Obs.	253	253	253	253	244	244
Panel D. State-Senate Campaigns:						
ln(endowment)	0.215***	0.180**	0.199**	-	0.159*	-
	(0.050)	(0.087)	(0.093)	-	(0.090)	-
Oil Price		0.100	0.150	0.008	0.238	0.013*
		(0.313)	(0.310)	(0.008)	(0.306)	(0.006)
ln(endowment) × Oil Price		0.0007	0.0008	0.0005	0.0012	0.0012
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Obs.	250	250	250	250	241	241
Controls			×		×	
Year fixed effects		×	×	×	×	×
State fixed effects				×		×

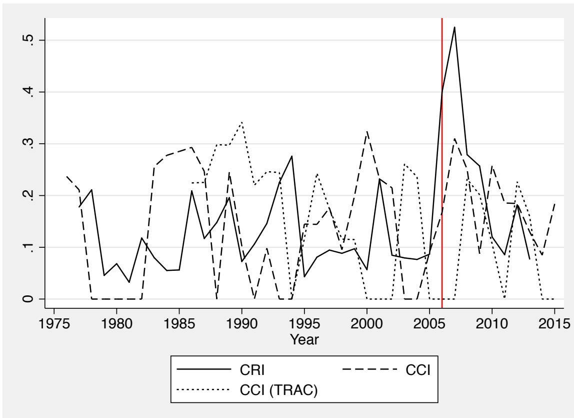
Note: Using oil endowment in logs. All outcome variables are in logs. Oil endowment is defined as the aggregated oil production over time plus oil reserves during 2017, divided by the average population across the sample period. Oil price is the crude oil first purchase price in real terms (2000 as the base year). Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$

Table 5: Legal Corruption: Top 10 Oil-Producing States

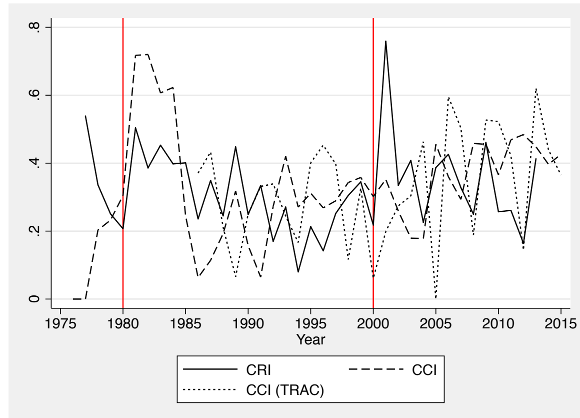
	All States				Excludes Alaska
	(1)	(2)	(3)	(4)	(5)
Panel A. State-Wide Campaigns:					
1[Oil Rich]	1.956***	1.689***	1.542**		
	(0.347)	(0.359)	(0.461)		
1[Oil Boom]			-0.235*		
			(0.130)		
1[Oil Rich]× 1[Oil Boom]			0.527	0.639*	0.848**
			(0.425)	(0.357)	(0.327)
Obs.	420	420	420	420	411
Panel B. Gubernatorial Campaigns:					
1[Oil Rich]	1.868***	1.575***	1.538**		
	(0.383)	(0.419)	(0.479)		
1[Oil Boom]			-0.051		
			(0.149)		
1[Oil Rich]× 1[Oil Boom]			0.427	0.592*	0.755**
			(0.326)	(0.315)	(0.306)
Obs.	201	194	201	201	197
Panel C. State-House Campaigns:					
1[Oil Rich]	1.916***	1.666***	1.397**		
	(0.381)	(0.383)	(0.532)		
1[Oil Boom]			-0.306**		
			(0.144)		
1[Oil Rich]× 1[Oil Boom]			0.662	0.748*	0.955**
			(0.437)	(0.391)	(0.371)
Obs.	399	399	399	399	390
Panel D. State-Senate Campaigns:					
1[Oil Rich]	1.611***	1.331***	1.195**		
	(0.350)	(0.356)	(0.564)		
1[Oil Boom]			-0.176		
			(0.117)		
1[Oil Rich]× 1[Oil Boom]			0.530	0.513	0.773**
			(0.418)	(0.402)	(0.353)
Obs.	390	374	390	390	381
Controls		×			
Year fixed effects				×	×
State fixed effects				×	×

Note: Outcome variables in logs. Sample size includes even years only. The indicator 1[Oil Rich] takes 1 for the top 10 oil-producing states (=0 otherwise), while 1[Oil Boom] takes 1 for all years between 2003-2016 (=0 otherwise). Results in columns (1)-(3) are obtained with an OLS estimator, and the results in columns (4)-(5) with a fixed-effects panel data estimator. Controls include state-level population, density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

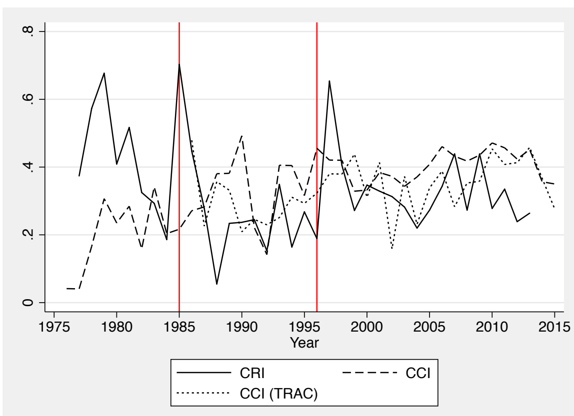
Figure 2: Measures of Illegal Corruption and Notable Political Scandals



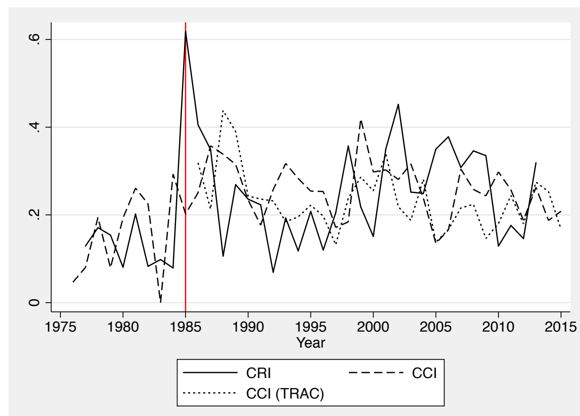
(a) Alaska



(b) Oklahoma



(c) Louisiana

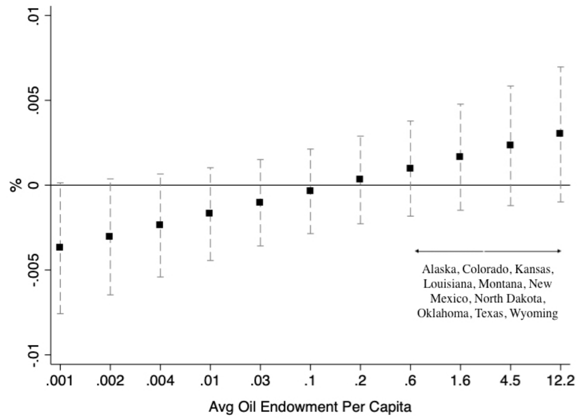


(c) Mississippi

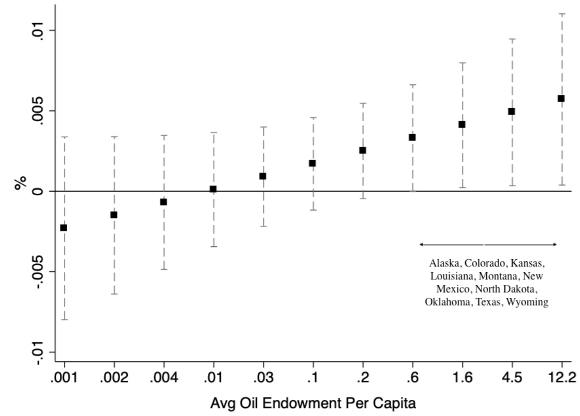
Note: The CCI and CCI (TRAC) are scaled so that their average values equal the average CRI.

Figure 3: The Effect of Oil Price on Illegal Corruption by Endowment

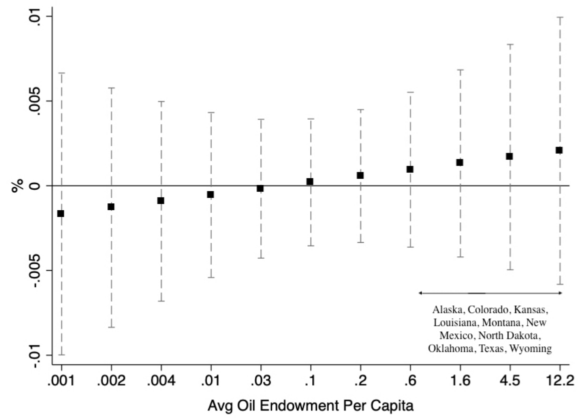
colframe=black!30!white, colback=white, width=12cm, center]



(a) Corruption Reflections Index



(b) Convictions Per Capita (TRAC)



(c) Corruption Convictions Index

Note: Average marginal effects derived from the regression of the residuals of the outcome variable (in logs) on oil price, oil endowment (in logs), and their interaction, after removing time and state fixed effects. Oil endowment is measured as thousands of oil barrels per capita. Confidence intervals are at the 95% confidence levels.

Appendix

Table A.1: List of States by Oil Production Levels

Top 5 Oil-Rich	Top 10 Oil-Rich	Top 20 Oil-Rich	Some Oil Production	No Oil Production
Alaska	Alaska	Alabama	Alabama	Connecticut
Louisiana	Kansas	Alaska	Alaska	Delaware
New Mexico	Louisiana	Arkansas	Arizona	Georgia
North Dakota	Montana	California	Arkansas	Hawaii
Wyoming	New Mexico	Colorado	California	Iowa
	North Dakota	Illinois	Colorado	Maine
	Oklahoma	Kansas	Florida	Maryland
	Texas	Kentucky	Idaho	Massachusetts
	Utah	Louisiana	Illinois	Minnesota
	Wyoming	Michigan	Indiana	New Hampshire
		Mississippi	Kansas	New Jersey
		Montana	Kentucky	North Carolina
		Nebraska	Louisiana	Oregon
		New Mexico	Michigan	Rhode Island
		North Dakota	Mississippi	South Carolina
		Oklahoma	Missouri	Vermont
		Texas	Montana	Wisconsin
		Utah	Nebraska	
		West Virginia	Nevada	
		Wyoming	New Mexico	
			New York	
			North Dakota	
			Ohio	
			Oklahoma	
			Pennsylvania	
			South Dakota	
			Tennessee	
			Texas	
			Utah	
			Virginia	
			Washington	
			West Virginia	
			Wyoming	

Note: Oil production is defined as the sum of state-level oil production (thousands of barrels per year) from 1976 to 2017. We rank states by dividing their oil production by their population averaged over the sample period. We exclude from the sample the District of Columbia, and the U.S. territories.

Table A.2: Oil Endowment, Oil Prices, and Illegal Corruption

	All States				Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Corruption Reflections Index:						
Endowment	-0.026***	-0.031**	-0.025**	-	-0.054**	-
	(0.008)	(0.010)	(0.010)	-	(0.017)	-
Oil Price		-0.003	-0.003	-0.005**	-0.003	-0.006**
		(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
Endowment × Oil Price		0.0001**	0.0001**	0.0001*	0.0004*	0.0004*
		(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0002)
Obs.	1,842	1,842	1,842	1,842	1,805	1,805
Panel B. Convictions Per Capita (TRAC):						
Endowment	0.072***	0.060***	0.086***	-	0.084**	-
	(0.011)	(0.009)	(0.015)	-	(0.029)	-
Oil Price		-0.035**	-0.036**	-0.003	-0.038**	-0.003
		(0.013)	(0.013)	(0.003)	(0.013)	(0.003)
Endowment × Oil Price		0.0003	0.0003	0.0002	0.001**	0.001**
		(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Obs.	1,366	1,366	1,366	1,366	1,344	1,344
Panel C. Corruption Convictions Index:						
Endowment	0.054***	0.060***	0.077***	-	0.106***	-
	(0.011)	(0.015)	(0.017)	-	(0.022)	-
Oil Price		0.112***	0.116***	0.024***	0.122***	0.025***
		(0.028)	(0.027)	(0.004)	(0.028)	(0.004)
Endowment × Oil Price		-0.0002	-0.0002	-0.0002	-0.0003	-0.0003
		(0.0002)	(0.0002)	(0.0002)	(0.0005)	(0.0005)
Obs.	1,753	1,753	1,753	1,753	1,724	1,724
Controls			×		×	
Year fixed effects		×	×	×	×	×
State fixed effects				×		×

Note: Using oil endowment in levels. All outcome variables are in logs. Oil endowment is defined as the aggregated oil production over time plus oil reserves during 2017, divided by the average population across the sample period. Oil price is the crude oil first purchase price in real terms (2000 as the base year). Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$

Table A.3: Oil Endowment, Oil Prices, and Legal Corruption

	All States				Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. State-Wide Campaigns:						
Endowment	0.304**	0.151	0.129		-0.008	
	(0.117)	(0.213)	(0.220)		(0.118)	
Oil Price		-0.398	-0.337	-0.003	-0.298	-0.003
		(0.278)	(0.250)	(0.003)	(0.253)	(0.003)
Endowment × Oil Price		0.003	0.003	0.003	0.005***	0.005***
		(0.002)	(0.002)	(0.002)	(0.0005)	(0.0005)
Obs.	420	420	420	420	402	411
Panel B. Gubernatorial Campaigns:						
Endowment	0.319**	0.162	0.130		0.075	
	(0.114)	(0.147)	(0.145)		(0.096)	
Oil Price		0.139	0.158	-0.003	0.152	-0.004
		(0.487)	(0.483)	(0.006)	(0.483)	(0.006)
Endowment × Oil Price		0.004**	0.004**	0.003**	0.004***	0.004***
		(0.001)	(0.001)	(0.001)	(0.0005)	(0.0005)
Obs.	201	201	201	201	197	197
Panel C. State-House Campaigns:						
Endowment	0.258	0.078	0.068		-0.109	
	(0.155)	(0.258)	(0.270)		(0.123)	
Oil Price		-0.701*	-0.589	-0.005	-0.555	-0.005
		(0.387)	(0.361)	(0.003)	(0.368)	(0.003)
Endowment × Oil Price		0.004	0.004	0.004	0.006***	0.006***
		(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Obs.	399	399	399	399	390	390
Panel C. State-Senate Campaigns:						
Endowment	0.204	0.075	0.040		-0.126	
	(0.124)	(0.236)	(0.235)		(0.091)	
Oil Price		-0.143	-0.129	-0.001	-0.080	-0.0005
		(0.256)	(0.256)	(0.003)	(0.257)	(0.003)
Endowment × Oil Price		0.003	0.003	0.003	0.005***	0.005***
		(0.002)	(0.002)	(0.002)	(0.0004)	(0.0003)
Obs.	390	390	390	390	381	381
Controls			×		×	
Year fixed effects		×	×	×	×	×
State fixed effects				×		×

Note: Using oil endowment in levels. All outcome variables are in logs. Oil endowment is defined as the aggregated oil production over time plus oil reserves during 2017, divided by the average population across the sample period. Oil price is the crude oil first purchase price in real terms (2000 as the base year). Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$

Table A.4: Illegal Corruption: Top 5 Oil-Producing States

	All States					Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Corruption Reflections Index:							
1[Oil Rich]	-0.321	-0.141	-0.405*				
	(0.210)	(0.189)	(0.213)				
1[Oil Booms]			-0.042				
			(0.041)				
1[Oil Rich]× 1[Oil Booms]			0.163**	0.173**		0.193**	
			(0.060)	(0.064)		(0.070)	
1[Oil Rich]× 1[1980s Boom]					0.374**		0.508**
					(0.181)		(0.162)
1[Oil Rich]× 1[2000s Boom]					0.027		-0.036
					(0.086)		(0.068)
Obs.	1,842	1,842	1,842	1,842	1,842	1,805	1,805
Panel B. Convictions Per Capita (TRAC):							
1[Oil Rich]	0.704***	0.846**	0.635**				
	(0.197)	(0.256)	(0.232)				
1[Oil Booms]			-0.002				
			(0.077)				
1[Oil Rich]× 1[Oil Booms]			0.142	0.202		0.273*	
			(0.164)	(0.155)		(0.160)	
1[Oil Rich]× 1[1980s Boom]					-		-
					-		-
1[Oil Rich]× 1[2000s Boom]					0.202		0.273*
					(0.155)		(0.160)
Obs.	1,366	1,366	1,366	1,366	1,366	1,344	1,344
Panel C. Corruption Convictions Index:							
1[Oil Rich]	0.639***	0.672***	0.636***				
	(0.156)	(0.184)	(0.172)				
1[Oil Booms]			-0.165**				
			(0.0601)				
1[Oil Rich]× 1[Oil Booms]			0.002	-0.012		-0.025	
			(0.076)	(0.112)		(0.134)	
1[Oil Rich]× 1[1980s Boom]					0.081		-0.103
					(0.420)		(0.460)
1[Oil Rich]× 1[2000s Boom]					-0.056		0.008
					(0.145)		(0.155)
Obs.	1,753	1,753	1,753	1,753	1,753	1,724	1,724
Controls		×					
Year fixed effects				×	×	×	×
State fixed effects				×	×	×	×

Note: Outcome variables in logs. The indicator 1[Oil Rich] takes 1 for the top 5 oil-producing states (=0 otherwise), while 1[Oil Booms] takes 1 for all years between 1976-1985 and between 2003-2017 (=0 otherwise). Results in columns (1)-(3) are obtained with an OLS estimator, and results in column (4) with a fixed-effects panel data estimator. Controls include state-level population, density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

Table A.5: Illegal Corruption: Top 20 Oil-Producing States

	All States					Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Corruption Reflections Index:							
1[Oil Rich]	-0.009	0.009	-0.048				
	(0.122)	(0.110)	(0.138)				
1[Oil Booms]			-0.057				
			(0.038)				
1[Oil Rich]× 1[Oil Booms]			0.077	0.081		0.079	
			(0.083)	(0.085)		(0.088)	
1[Oil Rich]× 1[1980s Boom]					0.025		0.036
					(0.119)		(0.123)
1[Oil Rich]× 1[2000s Boom]					0.121		0.110
					(0.102)		(0.105)
Obs.	1,842	1,842	1,842	1,842	1,842	1,805	1,805
Panel B. Convictions Per Capita (TRAC):							
1[Oil Rich]	0.212	0.346**	0.109				
	(0.151)	(0.159)	(0.170)				
1[Oil Booms]			-0.077				
			(0.090)				
1[Oil Rich]× 1[Oil Booms]			0.214	0.237*		0.249*	
			(0.143)	(0.134)		(0.137)	
1[Oil Rich]× 1[1980s Boom]					-		-
					-		-
1[Oil Rich]× 1[2000s Boom]					0.237*		0.249*
					(0.134)		(0.137)
Obs.	1,366	1,366	1,366	1,366	1,366	1,344	1,344
Panel C. Corruption Convictions Index:							
1[Oil Rich]	0.242*	0.290**	0.205				
	(0.124)	(0.132)	(0.139)				
1[Oil Booms]			-0.198**				
			(0.064)				
1[Oil Rich]× 1[Oil Booms]			0.072	0.111		0.215	
			(0.118)	(0.116)		(0.161)	
1[Oil Rich]× 1[1980s Boom]					0.203		0.175
					(0.195)		(0.197)
1[Oil Rich]× 1[2000s Boom]					0.059		0.075
					(0.120)		(0.122)
Obs.	1,753	1,753	1,753	1,753	1,753	1,724	1,724
Controls		×					
Year fixed effects				×	×	×	×
State fixed effects				×	×	×	×

Note: Outcome variables in logs. The indicator 1[Oil Rich] takes 1 for the top 20 oil-producing states (=0 otherwise), while 1[Oil Booms] takes 1 for all years between 1976-1985 and between 2003-2017 (=0 otherwise). Results in columns (1)-(3) are obtained with an OLS estimator, and results in column (4) with a fixed-effects panel data estimator. Controls include state-level population, density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

Table A.6: Legal Corruption: Top 5 Oil-Producing States

	All States				Excludes Alaska
	(1)	(2)	(3)	(4)	(5)
Panel A. State-Wide Campaigns:					
1[Oil Rich]	1.845***	1.691**	1.759**		
	(0.492)	(0.615)	(0.789)		
1[Oil Boom]			-0.145		
			(0.122)		
1[Oil Rich]× 1[Oil Boom]			0.112	0.521	1.064
			(0.896)	(0.750)	(0.762)
Obs.	420	420	420	420	411
Panel B. Gubernatorial Campaigns:					
1[Oil Rich]	2.249***	2.196***	2.109**		
	(0.328)	(0.338)	(0.618)		
1[Oil Boom]			0.036		
			(0.140)		
1[Oil Rich]× 1[Oil Boom]			0.183	0.243	0.572
			(0.565)	(0.586)	(0.665)
Obs.	201	194	201	201	197
Panel C. State-House Campaigns:					
1[Oil Rich]	1.759**	1.744**	1.403		
	(0.593)	(0.685)	(1.036)		
1[Oil Boom]			-0.218		
			(0.133)		
1[Oil Rich]× 1[Oil Boom]			0.453	0.784	1.375*
			(0.924)	(0.797)	(0.794)
Obs.	399	399	399	399	390
Panel D. State-Senate Campaigns:					
1[Oil Rich]	1.764***	1.765**	1.242		
	(0.486)	(0.604)	(1.085)		
1[Oil Boom]			-0.120		
			(0.109)		
1[Oil Rich]× 1[Oil Boom]			0.668	0.612	1.400*
			(0.858)	(0.853)	(0.713)
Obs.	390	374	390	390	381
Controls		×			
Year fixed effects				×	×
State fixed effects				×	×

Note: Outcome variables in logs. Sample size includes even years only. The indicator 1[Oil Rich] takes 1 for the top 5 oil-producing states (=0 otherwise), while 1[Oil Boom] takes 1 for all years between 2003-2016 (=0 otherwise). Results in columns (1)-(3) are obtained with an OLS estimator, and the results in columns (4)-(5) with a fixed-effects panel data estimator. Controls include state-level population, density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

Table A.7: Legal Corruption: Top 20 Oil-Producing States

	All States				Excludes Alaska
	(1)	(2)	(3)	(4)	(5)
Panel A. State-Wide Campaigns:					
1[Oil Rich]	1.233***	0.833**	0.814**		
	(0.346)	(0.341)	(0.384)		
1[Oil Boom]			-0.331**		
			(0.147)		
1[Oil Rich]× 1[Oil Boom]			0.535*	0.558**	0.646**
			(0.277)	(0.237)	(0.230)
Obs.	420	420	420	420	411
Panel B. Gubernatorial Campaigns:					
1[Oil Rich]	1.306***	1.151***	0.922**		
	(0.328)	(0.319)	(0.418)		
1[Oil Boom]			-0.134		
			(0.151)		
1[Oil Rich]× 1[Oil Boom]			0.501*	0.554*	0.624**
			(0.297)	(0.293)	(0.297)
Obs.	201	194	201	201	197
Panel C. State-House Campaigns:					
1[Oil Rich]	1.651***	1.238***	1.248**		
	(0.332)	(0.327)	(0.371)		
1[Oil Boom]			-0.362**		
			(0.166)		
1[Oil Rich]× 1[Oil Boom]			0.514	0.515*	0.603**
			(0.315)	(0.292)	(0.289)
Obs.	399	399	399	399	390
Panel D. State-Senate Campaigns:					
1[Oil Rich]	1.321***	1.173***	1.144**		
	(0.279)	(0.271)	(0.350)		
1[Oil Boom]			-0.161		
			(0.139)		
1[Oil Rich]× 1[Oil Boom]			0.227	0.288	0.394
			(0.269)	(0.250)	(0.237)
Obs.	390	374	390	390	381
Controls		×			
Year fixed effects				×	×
State fixed effects				×	×

Note: Outcome variables in logs. Sample size includes even years only. The indicator 1[Oil Rich] takes 1 for the top 20 oil-producing states (=0 otherwise), while 1[Oil Boom] takes 1 for all years between 2003-2016 (=0 otherwise). Results in columns (1)-(3) are obtained with an OLS estimator, and the results in columns (4)-(5) with a fixed-effects panel data estimator. Controls include state-level population, density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

Table A.8: Illegal Corruption Using Alternative Oil Boom Years: Top 10 Oil-Producing States

	All States					Excludes Alaska	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Corruption Reflections Index:							
1[Oil Rich]	-0.155	-0.001	-0.212				
	(0.159)	(0.140)	(0.177)				
1[Oil Booms]			-0.087**				
			(0.035)				
1[Oil Rich]× 1[Oil Booms]			0.152	0.157		0.158	
			(0.102)	(0.103)		(0.113)	
1[Oil Rich]× 1[1980s Boom]					0.178		0.244*
					(0.140)		(0.136)
1[Oil Rich]× 1[Shale Boom]					0.142		0.093
					(0.127)		(0.129)
Obs.	1,842	1,842	1,842	1,842	1,842	1,805	1,805
Panel B. Convictions Per Capita (TRAC):							
1[Oil Rich]	0.397*	0.521**	0.290				
	(0.205)	(0.207)	(0.229)				
1[Oil Booms]			-0.051				
			(0.067)				
1[Oil Rich]× 1[Oil Booms]			0.266*	0.317**		0.367**	
			(0.139)	(0.131)		(0.127)	
1[Oil Rich]× 1[1980s Boom]					-		-
					-		-
1[Oil Rich]× 1[Shale Boom]					0.317**		0.367**
					(0.131)		(0.127)
Obs.	1,366	1,366	1,366	1,366	1,366	1,344	1,344
Panel C. Corruption Convictions Index:							
1[Oil Rich]	0.335**	0.391**	0.254				
	(0.160)	(0.159)	(0.175)				
1[Oil Booms]			-0.085				
			(0.051)				
1[Oil Rich]× 1[Oil Booms]			0.200	0.221		0.248	
			(0.182)	(0.183)		(0.196)	
1[Oil Rich]× 1[1980s Boom]					0.472*		0.459
					(0.260)		(0.275)
1[Oil Rich]× 1[Shale Boom]					0.109		0.148
					(0.197)		(0.210)
Obs.	1,753	1,753	1,753	1,753	1,753	1,724	1,724
Controls		×					
Year fixed effects				×	×	×	×
State fixed effects				×	×	×	×

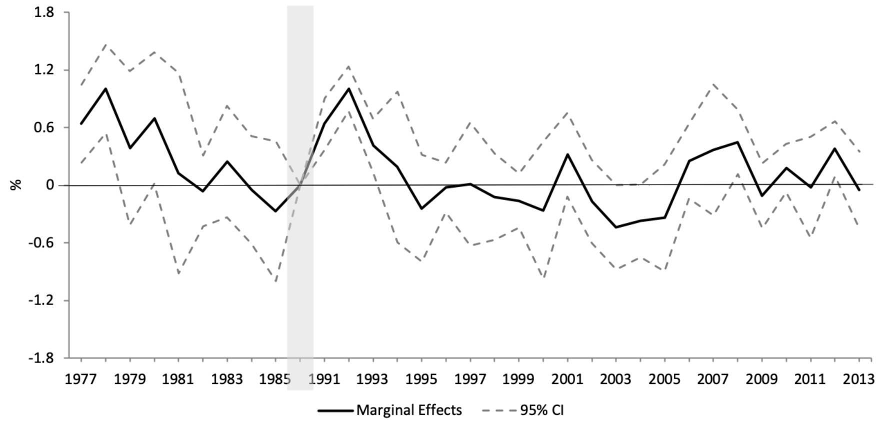
Note: Using the top 10 oil-producing states as the treatment definition. Boom years are from 1978-1985 and from 2006-2014. Outcome variables in logs. Results in columns (1)-(3) are obtained with an OLS estimator, and results in column (4) with a fixed-effects panel data estimator. Controls include state-level population, density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

Table A.9: Legal Corruption Using Alternative Oil Boom Years: Top 10 Oil-Producing States

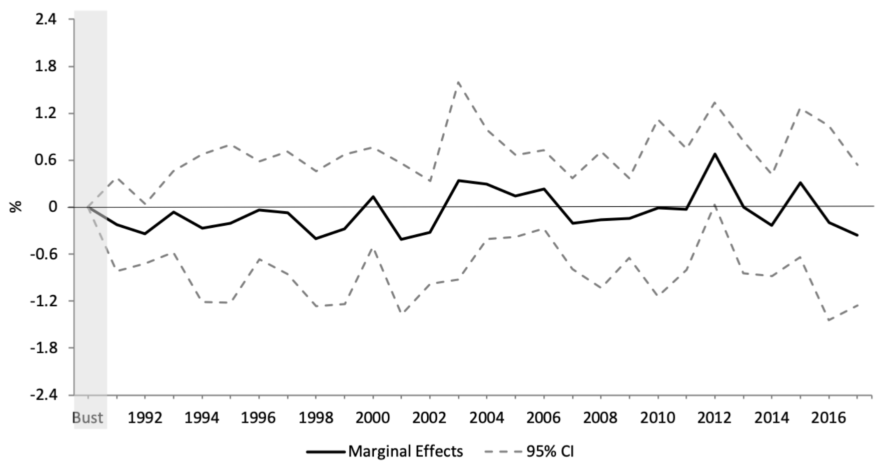
	All States				Excludes Alaska
	(1)	(2)	(3)	(4)	(5)
Panel A. State-Wide Campaigns:					
1[Oil Rich]	1.956***	1.689***	1.598***		
	(0.347)	(0.359)	(0.401)		
1[Shale Boom]			-0.132		
			(0.143)		
1[Oil Rich]× 1[Shale Boom]			0.531	0.485	0.684**
			(0.347)	(0.320)	(0.278)
Obs.	420	420	420	420	411
Panel B. Gubernatorial Campaigns:					
1[Oil Rich]	1.868***	1.575***	1.365**		
	(0.383)	(0.419)	(0.445)		
1[Shale Boom]			-0.029		
			(0.143)		
1[Oil Rich]× 1[Shale Boom]			0.717**	0.585*	0.721**
			(0.293)	(0.302)	(0.294)
Obs.	201	194	201	201	197
Panel C. State-House Campaigns:					
1[Oil Rich]	1.916***	1.666***	1.465**		
	(0.381)	(0.383)	(0.515)		
1[Shale Boom]			-0.322*		
			(0.165)		
1[Oil Rich]× 1[Shale Boom]			0.667	0.800*	1.030**
			(0.473)	(0.414)	(0.386)
Obs.	399	399	399	399	390
Panel D. State-Senate Campaigns:					
1[Oil Rich]	1.611***	1.331***	1.286**		
	(0.350)	(0.356)	(0.522)		
1[Shale Boom]			-0.203*		
			(0.115)		
1[Oil Rich]× 1[Shale Boom]			0.485	0.472	0.716*
			(0.406)	(0.406)	(0.370)
Obs.	390	374	390	390	381
Controls		×			
Year fixed effects				×	×
State fixed effects				×	×

Note: Using the top 10 oil-rich states as the treatment definition. Boom years are from 1978-1985 and from 2006-2014. Outcome variables in logs. Sample size includes even years only. Results in columns (1)-(3) are obtained with an OLS estimator, and the results in columns (4)-(5) with a fixed-effects panel data estimator. Controls include state-level population, density, % of adult population with a bachelor degree, and real income, all averaged across the sample period. Clustered standard errors by state in parentheses. Significance levels: $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.001$.

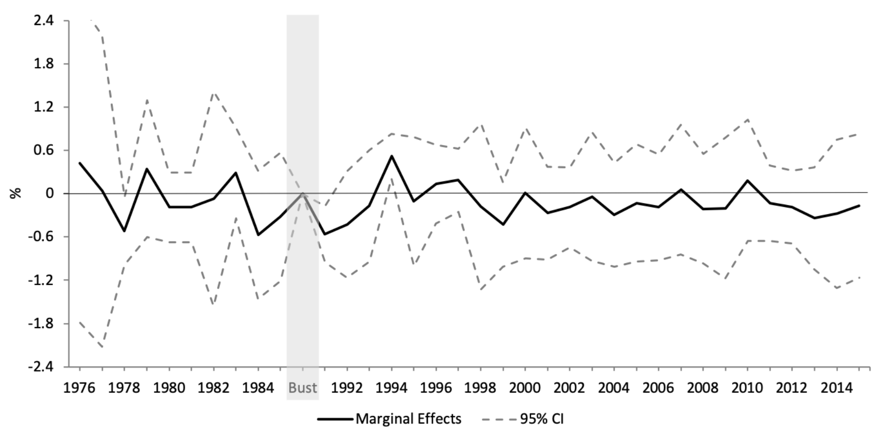
Figure A.1: Illegal Corruption and Yearly Heterogeneous Effects: Top 5 Oil-Producing States



(a) Corruption Reflections Index



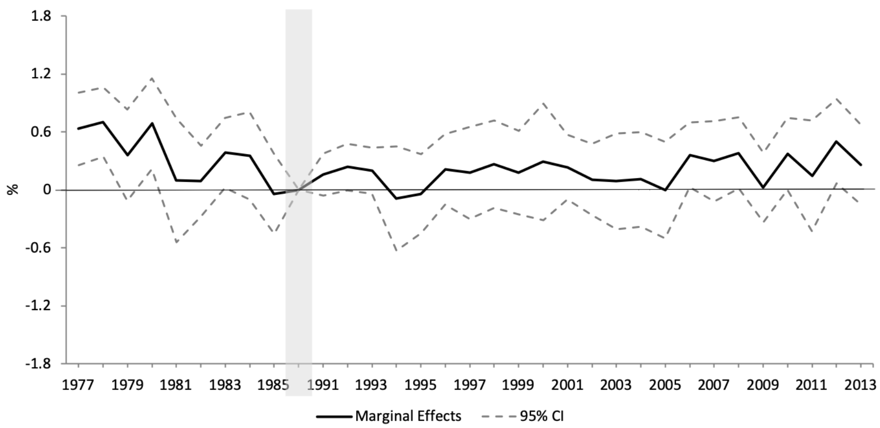
(b) Convictions Per Capita (TRAC)



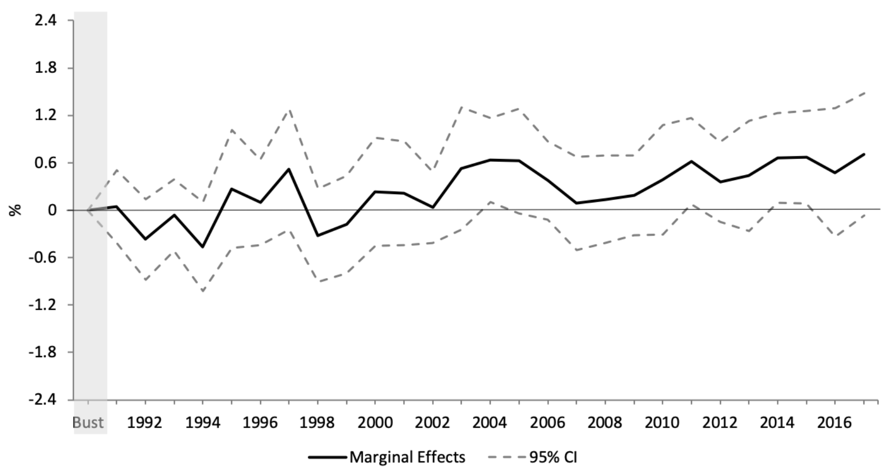
(c) Corruption Convictions Index

Note: Fixed-effects estimation using top 5 oil-producing states as the treatment group. 95% confidence intervals computed using clustered standard errors by state. Reference years (1985-1990) are marked with a grey vertical line.

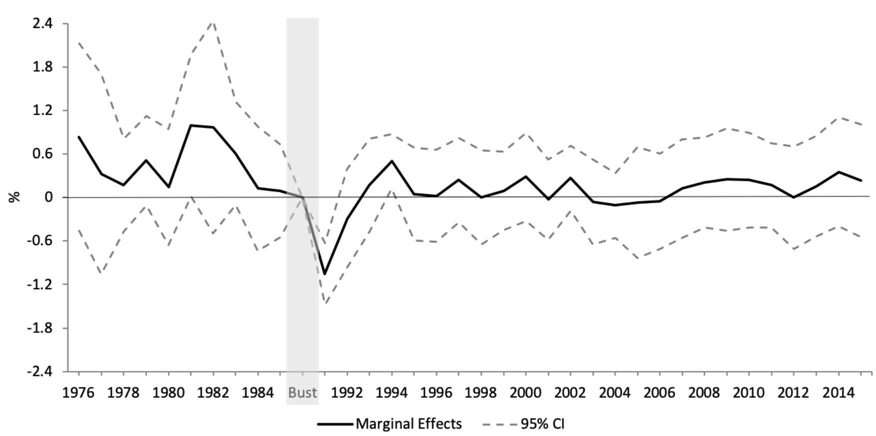
Figure A.2: Illegal Corruption and Yearly Heterogeneous Effects: Top 10 Oil-Producing States



(a) Corruption Reflections Index



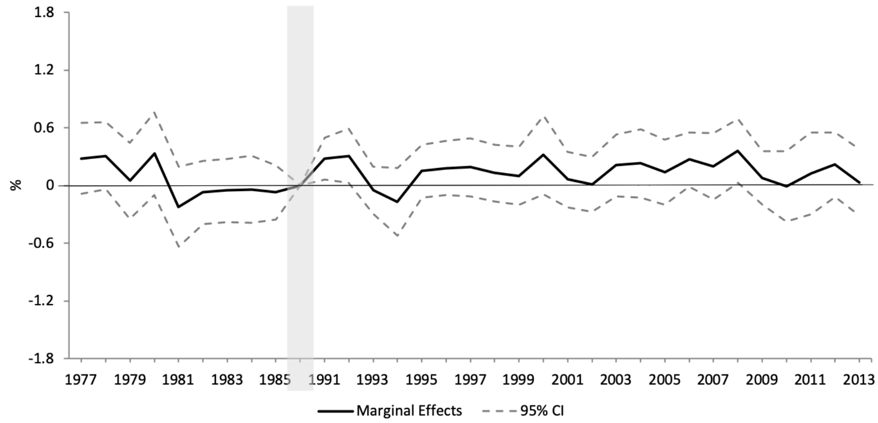
(b) Convictions Per Capita (TRAC)



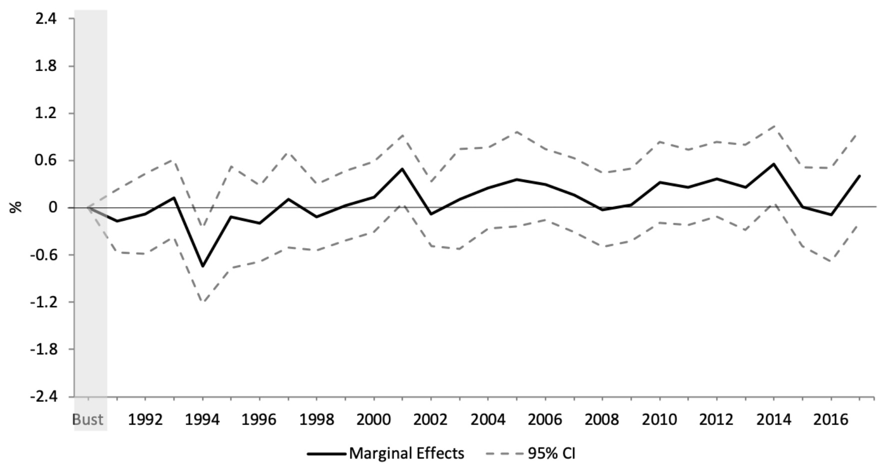
(c) Corruption Convictions Index

Note: Fixed-effects estimation using top 10 oil-producing states as the treatment group. 95% confidence intervals computed using clustered standard errors by state. Reference years (1985-1990) are marked with a grey vertical line.

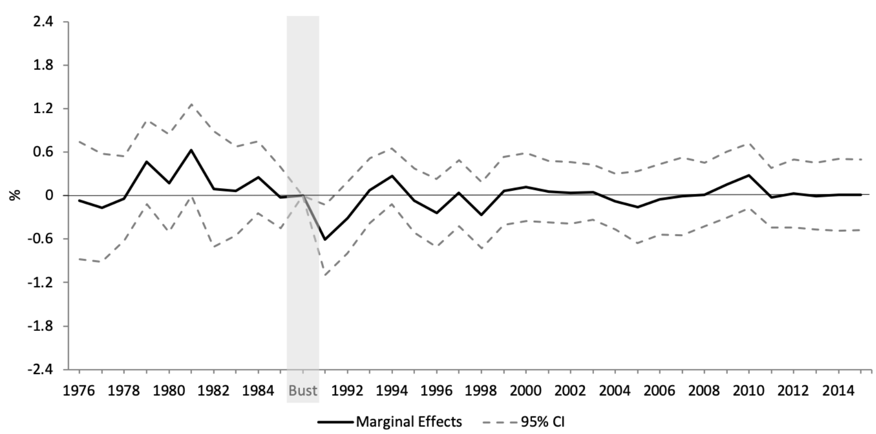
Figure A.3: Illegal Corruption and Yearly Heterogeneous Effects: Top 20 Oil-Producing States



(a) Corruption Reflections Index



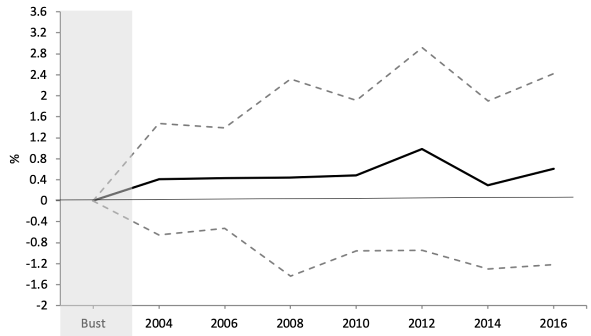
(b) Convictions Per Capita (TRAC)



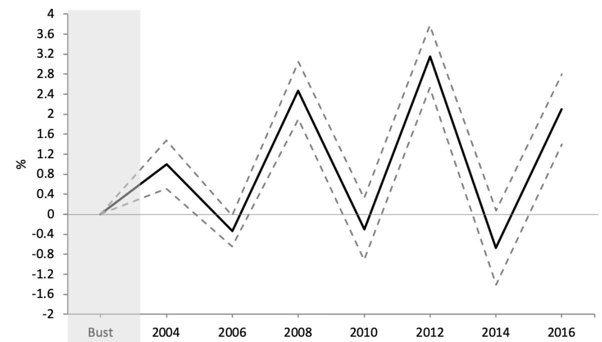
(c) Corruption Convictions Index

Note: Fixed-effects estimation using top 20 oil-producing states as the treatment group. 95% confidence intervals computed using clustered standard errors by state. Reference years (1985-1990) are marked with a grey vertical line.

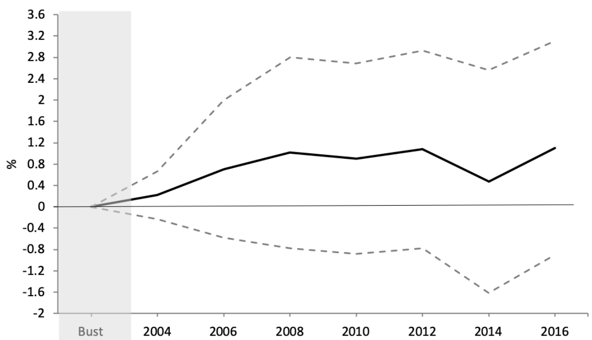
Figure A.4: Legal Corruption and Yearly Heterogeneous Effects: Top 5 Oil-Producing States



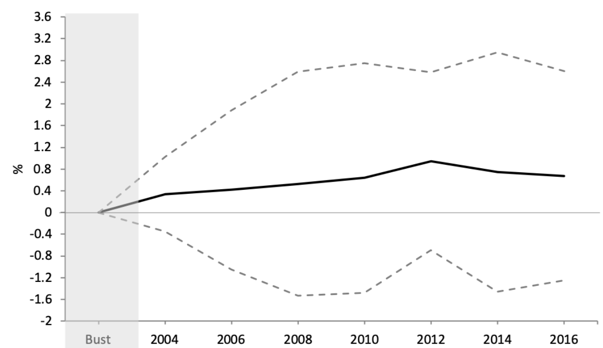
(a) State-Wide



(b) Governor



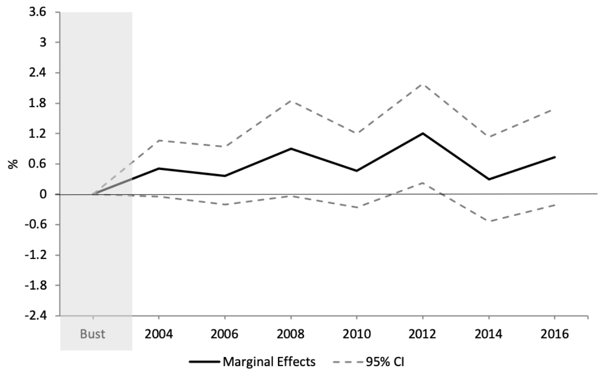
(c) State-House



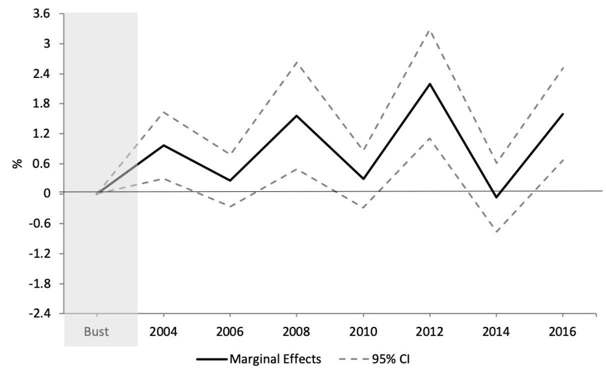
(d) State-Senate

Note: Fixed-effects estimation using top 5 oil-producing states as the treatment group. All outcome variables are even years between 2000 and 2016 and in real terms (2000 as the base year). 95% confidence intervals computed using clustered standard errors by state. 2000 is the reference year.

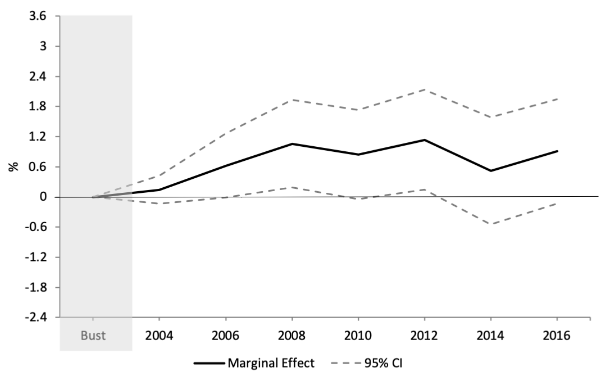
Figure A.5: Legal Corruption and Yearly Heterogeneous Effects: Top 10 Oil-Producing States



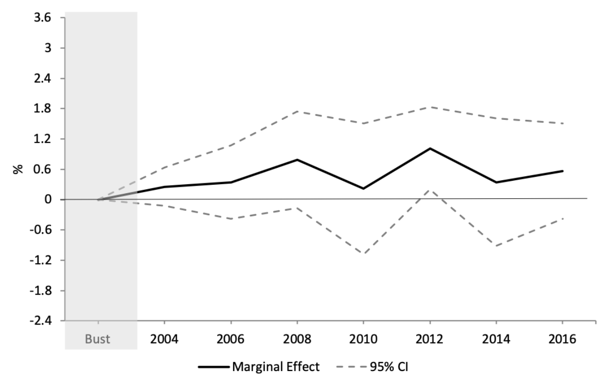
(a) State-Wide



(b) Governor



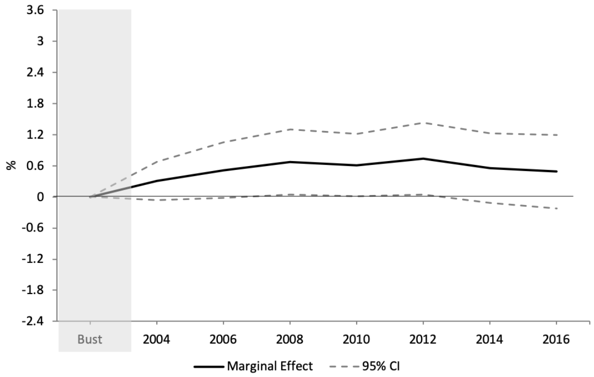
(c) State-House



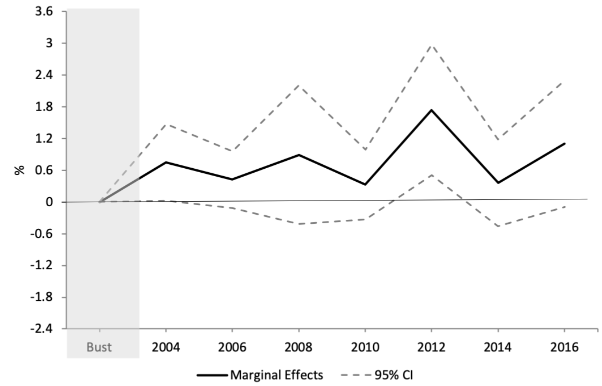
(d) State-Senate

Note: Fixed-effects estimation using top 10 oil-producing states as the treatment group. All outcome variables are even years between 2000 and 2016 and in real terms (2000 as the base year). 95% confidence intervals computed using clustered standard errors by state. 2000 is the reference year.

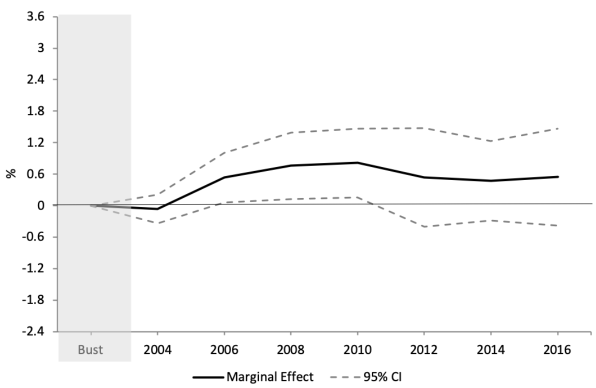
Figure A.6: Legal Corruption and Yearly Heterogeneous Effects: Top 20 Oil-Producing States



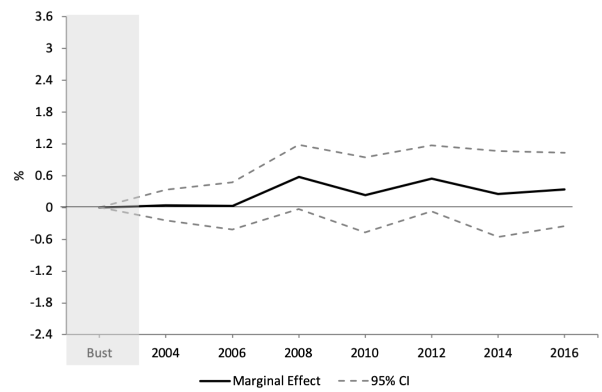
(a) State-Wide



(b) Governor



(c) State-House



(d) State-Senate

Note: Fixed-effects estimation using top 20 oil-producing states as the treatment group. All outcome variables are even years between 2000 and 2016 and in real terms (2000 as the base year). 95% confidence intervals computed using clustered standard errors by state. 2000 is the reference year.