Resource Wealth and Private Sector Development in the Middle East

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Abstract

In this paper, we investigate the incentives of autocratic rulers in oil-producing countries to support private sector development. In particular, we argue that the size of oil rents per capita has an important effect on ruler support for the rule of law, respect of private property rights, and other factors that promote private investment. However, the effect is not linear, but instead resembles a U-curve: Only in countries with middle levels of per capita oil wealth would we expect the state to repress the private sector. At both low and high levels of oil wealth, autocrats interested in regime preservation would support and promote the private sector. Descriptive analyses of governance measures in Arab oil producers offer empirical support for these propositions. These arguments and findings contradict some of the key claims in the resource curse literature but also differ from opposing arguments that offer historically grounded explanations for political and economic development among oil exporters. While our framework aims to present a systematic, incentive-based account of variation in private sector development among oil producers, we acknowledge that arguments based on historical specificities are needed to explain why some countries, and not others, are able to become large per capita oil producers when oil is discovered.
1. Introduction

The effect of natural resource wealth on institutional development and governance is the subject of ongoing debates in social science research. While some find that oil riches are associated with poor institutional quality (Besley and Persson 2011, Chaudhry 1997, Karl 1997, Mahdavy 1970), others contend that historical factors, such as populist legacies and state autonomy, mediate the effects of oil abundance on state capacity to construct capable regulatory and productive institutions (Hertog 2010).¹ In this article, we wade into this debate by focusing on private sector development, a key arena of governance and a critical factor shaping economic growth prospects.

What incentives do autocratic rulers of oil rich countries face to promote private sector development? More specifically, how do attitudes towards the private sector shift, if at all, as oil endowments increase? At present, no convincing theoretical frame can address these questions beyond the broad intuition that rentier states do not “need” private production for their survival but instead rely on the distribution of rents. The logic of this argument implies that greater oil endowments translate into a larger resource curse (cites), and thus less private sector development (Mazaheri 2016, other cites).

Empirically, we show that the high oil countries of the Gulf Cooperation Council (GCC) have avoided many aspects of the resource curse, including with respect to private sector development. In contrast, the oil rich populous states of the Middle East and North Africa (MENA), which are characterized by middle-level oil rents per capita, exhibit far less respect for the rule of law and related indicators of support for private sector development than their lower population counterparts in the Gulf.

Specialists on the Gulf have noted that the GCC states do not neatly conform to the predictions of the resource curse logic, invoking historically specific aspects of state-building in the region as alternative explanations (Herb 2014, Hertog 2011, Hertog, Luciani and Valeri 2014). However, while historical explanation is necessary, it is not sufficient to account for the apparent exceptionalism of the rich oil countries. Instead, our explanation for intra-regional variation in the effects of oil wealth on governance patterns highlights the complementary role of both rational incentives and historical inheritance.

Our framework holds that rulers in high and low population oil-rich countries to face distinct incentives to extend credible commitments to private capital holders. Rulers adjust their policies in ways that both maximize their economic outcomes and the chances of preserving their rule. In turn, power preservation depends on how private sector development affects the ability and the willingness of the opposition to mount a rebellion. When resource rents per capita are high, as in the Gulf oil exporters with low citizen populations, oil transfers to the population tend

¹ For a comprehensive review, see Waldner and Smith (2013).
to be high, creating a situation where the private sector is less threatening on both accounts. As a result, rulers that transfer higher oil rents in absolute terms to their population foster a political settlement in which more private sector dynamism is permitted. Conversely, when per capita resource levels are more constrained, as in the high population Middle Eastern oil exporters, rulers are more threatened by the rise of the private sector. Potential political insurgents have less to lose in terms of the destruction of assets, and a rise in private incomes can have a large effect on their ability to mount a successful insurgency. In this context, autocrats will tend to restrict private sector development in order to preempt or suppress threats from outsiders.

While this framework can account for the incentives of rulers in countries with high levels of oil per capita to allow for private sector development, it does not explain how such countries have been able to become large-scale oil producers in the first place. In other words, how do countries traverse from the lower range of oil production, where the resource curse plays out in stark terms, to higher levels of production? Here it is essential to invoke historical factors, notably the type of sociopolitical conditions in existence prior to the discovery of oil discovery that allow – or do not allow – rulers to provide credible commitments to potential opposition that oil will be shared in a way that secures sufficient political peace while permitting the full exploitation of reserves.

The paper is structured as follows. First, we review the literature on the incentives of rulers to establish the rule of law in autocratic settings, and in oil-dominated economies and develop an alternative account of the relationship between oil and private sector development. Second, we introduce the measures of support for private sector development employed in the paper and carefully specify what we do and do not mean by the rule of law in authoritarian setting. We then present a typology of political economies within the MENA region stratified by endowments of people and natural resources and show how various measures of rule of law consistently diverge across the region. Third, to account for intra-regional variation in governance practices related to private sector development, we further develop our arguments linking distinct levels of resource wealth with varied ruler approaches to private sector development and present a simple model to illustrate the logic behind our intuitions, including the issue of endogenizing oil reserves. Fourth, we extend the simple framework in directions that help to account for variation among oil countries, including the balance between repression and cooptation and variation in in the characteristics of possible insurrections. To conclude, we underscore the contributions of the theoretical framework and empirical findings and suggest further applications of the main claims in the paper.

### 2. Private sector development in authoritarian regimes and in oil countries

Respect for the rule of law and, especially, secure property rights are integral to dominant explanations for economic development and are vital for the development
of a robust and vibrant private sector: Predictable and evenly enforced rules promote private investment, capital accumulation and other factors central to economic development and growth (see, for example, Acemoglu and Robinson 2012; Kuran 2011, Mahoney 2010, North 1990, Rodrik, Subramanian, and Trebbi 2004; Weingast). Moreover, the stability of legal and regulatory frameworks arguably breeds trust in the political system, encouraging individuals, groups, and firms to invest their scarce resources in local projects and to carry out economic exchange, thereby contributing to overall growth.

As in other studies of the origins and function of the rule of law in non-democratic contexts, (Helmke and Rosenbluth 2009, 347-348; Wang 2014, 2, 21), we focus on a more partial and selective definition of the rule of law largely centered on the security of property rights and other guarantees to private capital holders. Although authoritarian rulers may face incentives to foster investment by offering and respecting predictable rules around economic transactions, they tend to have little interest in tolerating “judicial discretion of politically sensitive issues” (Helmke and Rosenbluth 2009, 347). Thus, the form of the rule of law that we discuss in this paper falls short of a comprehensive and normatively ideal understanding of the term, which is more likely to obtain in democratic polities (Helmke and Rosenbluth 2014, 348; Kleinfeld and Belton 2005, 3).

Even if the form of rule of law institutionalized in authoritarian systems is a far cry from democracy, it remains puzzling that authoritarian rulers would tolerate and even promote private sector development because of the risk that it would weaken their hold on power, increasing the likelihood that they will be replaced. Under what conditions, then, do authoritarian regimes attempt to encourage the development of a private sector?

At present, two main lines of analysis address the relationship between oil wealth and private sector development, including the resource curse literature and historically specific approaches. The logic of the resource curse (cites), which has been quite influential, suggests that that rentier states do not need private output for their survival. This approach, along with the rentier state framework (cites), generally suggest a negative relationship in which more oil leads to less private sector development. One aspect of this story is economic: According to the Dutch disease argument, natural resource wealth weakens private sector competitiveness (cite). In parallel, the rentier state logic implies that oil wealth is associated with the rise of distributive states (Beblawi and Luciani 1987), with less need to give concessions to the private sector and, hence, less private sector development.2

The rentier state argument implies that private firms are ultimately political organizations, which can be dangerous from a regime survival perspective – i.e., that private sector development improves the ability of the population to rebel. Richer oil

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2 A related argument is that richer oil states hire more public servants in order to improve their hold on power (Robinson, Torvik, and Verdier 2006), thereby crowding out the private sector.
countries can thus afford to live without a private sector, since they have another source of income to satisfy the ruling elite needs, as well as the needs of the population. In a recent book, Mazaheri (2016) develops a different argument with the same implications by asserting that in high oil countries, business elites have a greater ability and willingness to exclude new entrants into markets they monopolize, leading to less private sector dynamism. The implication of this type of theory supports the experience of middle oil countries, where the private sector is less developed than in non-oil countries, but contradicts the experience of the oil-rich GCC countries.

By contrast, critics of the resource curse argument contend that there is no relationship between oil and institutions, such as those that support private sector development, and that institutional characteristics are caused by altogether different factors (Menaldo 2016). With growing recognition that the GCC countries are different, especially with respect to measures related to private sector development, an alternative explanation has emerged for the exceptionalism of these super-rich oil countries. Built around historical contingencies, proponents of this set of approaches point to pre-oil “inclusive settlements,” the relative lack of colonial legacies, and features of monarchical rule as it evolved in the Gulf (cites). While some historically oriented scholars think of the GCC as an exception to the logic of “the oil curse,” others reject arguments based on rational incentives and thus simply sidestep the debate. While we recognize the value of historical arguments, particularly in shaping initial political settlements that affected the ability to fully exploit oil resources, we have trouble believing that incentives do not also shape ruler behavior vis-à-vis private sector development once oil is flowing.

The empirical anomalies facing the resource curse argument and the limitations of historically specific accounts call for a systematic framework to elucidate the conditions under which autocratic rulers support private sector development in oil economies. An alternative theoretical tradition, much less used in the context of oil economies, suggests a positive relationship between oil wealth and private sector development. This tradition maintains that rulers with long time horizons care about the development of the economy, which provides a long-term tax base and reduces the potential for popular grievances, both of which support their rule (Bates and Lien 1985, North and Weingast 1989, Olson 1993, Weingast 1997). In this type of authoritarian bargain, then, very large oil reserves would strengthen ruling elites by allowing them to operate with long time horizons, increasing the chance that

3 Subsequent modeling of the autocratic state explores the role of the threat of insurrection to displace inefficient autocrats. In these game theoretic models, the risk of revolution constrains the incentives of autocrats to over-tax poorer segments of the population whose interest lies in democratization and income redistribution from the rich to the poor (Acemoglu and Robinson 2005, Besley and Kadamatsu 2007, Gandhi and Przeworski 2006, Helmke and Rosenbluth 2009, 357-358).

4 For example, see Mazaheri (2016), who develops a general theory that predicts lower private sector development with greater per capita oil wealth, but then explains GCC exceptionalism with an entirely different logic related to “familism” in the sub-region.
they will provide the necessary conditions for private sector development and to foster economic diversification. The main core assumption here is that more oil leads to arrangements in which the private sector has lower incentives or will to lead rebellions. The implication of this type of approach is consistent with dynamics in the GCC cases, but contradicts the experience of middle oil countries.

Any account of the effects of oil on private sector development must acknowledge that, in the eyes of autocrats, private firms are political organizations that can threaten their rule. Acknowledging these political dynamics points to two main factors needed to explain the conditions under which rulers in oil-rich economies support private sector development, notably the ability and willingness of the population to mount insurgencies in low versus high oil countries. Rational rulers take these incentives into consideration, while at the same time applying the “proportionality principle” (Cox, North and Weingast 2012), allocating benefits and privileges in proportion to the violence potential of the beneficiaries, thereby providing sufficient oil transfers to elements of the population to prevent insurgency.

The theory we offer reconciles incentives with empirical observations and with historical specificities. First, unlike the resource curse argument, our theory does not predict a linear relation between oil and the rule of law and other policies promoting private sector development. By emphasizing the impact of oil on both the ability and willingness of private capital holders to support insurgencies, we argue that the relationship between oil and private sector development follows a U-shaped curve. Autocratic rulers of countries that have low or high levels of oil wealth have increased incentives to support private sector development than countries with middle-range levels of oil.5

Second, the argument we have just outlined, however, presents a static view that takes oil reserves as given. It cannot explain why some countries end up with high levels of oil production, while other countries, with potentially large reserves, end up with lower levels of production. Here, historical approaches offer great insights. From a more dynamic perspective, for countries to move from low to high levels of oil production requires the establishment of a social contract with the population that permits rulers to traverse the difficult early phase of natural resource extraction while increasing investment in oil. Countries that have successfully managed this transition were able to do so because pre-oil political settlements

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5 The U-shape relationship is similar to that obtained by Acemoglu and Robinson (2012), in a model where political elites may block technological or institutional innovation and thus hurt economic development, because of fears of being displaced when innovation erodes their incumbency advantage. Also, Ali and El-Badawi (2012) expand the Robinson et al (2006) model by allowing autocratic rulers of oil countries to provides carrots (public sector jobs) or sticks (physical repression) and argue that middle oil countries prefer to repress, while richer oil countries hire more in the public sector.
provided de facto guarantees that rulers would not adopt short-term, myopic strategies that prevented them from sharing the profits.

In short, rulers adjust their policies vis-à-vis the private sector in ways that both maximize their economic outcomes and preserve their rule. To do so, they must share oil rents with their population according to the proportionality principle, but must also decide whether they are willing to support the emergence of an autonomous private sector. This choice depends on an assessment of two factors: how much private sector development affects the ability and the willingness of the opposition to mount a rebellion. When resource rents per capita are high, as in the Gulf oil exporters with low citizen populations, oil transfers to the population tend to be high, rendering the private sector less threatening. First, potential private sector output will be large, since it caters to a richer population, and the cost of insurrection will rise as potential insurgents have more to lose in terms of destroyed assets. Second, if they are already rich from oil transfers, citizens will be less likely to revolt when they receive additional private income. As a result, rulers who transfer higher oil rents to their population in absolute terms construct a political settlement that favors private sector dynamism. Conversely, when per capita resource levels are more constrained, rulers are more threatened by the rise of the private sector. Prospective political insurgents have less to lose in terms of the destruction of assets, and a rise in private incomes can have a substantial effect on their ability to mount a successful insurgency. In this context, autocrats will restrict private sector development to preempt or suppress threats from regime outsiders.

The logic described above rests on several assumptions. First, private firms can play a political role, posing a potential threat to autocrats. This notion is well established in the social sciences (see Moore 1964, inter alia), and is a cornerstone of political economy models. For example, North and his collaborators point to “limited access orders,” in which governing coalitions restrict the emergence of new groups so that they do not become powerful, thus forcing the rulers to share authority and rents more broadly. A second assumption embedded in the framework is that a richer private sector has more to lose and has fewer incentives to back insurrections (cites). Finally, the framework rests on the assumption that more successful insurrections require access to higher levels of financing (cites).

In the next section, we present some descriptive data on patterns of governance in the distinct political economies of the Middle East to illustrate the U-shaped relationship between per capita oil wealth and private sector development in the region.

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6 In the words of Cox, North and Weingast (2013, page 10), a successful governing coalition survives by balancing two strategies: “By denying organizational rights to factions outside the regime, it reduces their ability and hence incentive to initiate violence against the regime. By distributing rents among its insider factions in proportion to their probabilities of prevailing in fights, and fostering a matrix of personal commitments among them, it deters internecine fights.”
3. Variation in the rule of law in the MENA region

A typology of MENA political economies stratified by population and oil and gas endowments yields three distinct ideal types. In this section, we first present these varieties of MENA political economies and then present the specific measures we use to capture the selective and partial conceptualization of the rule of law employed in this paper, showing how these indicators vary across political economy types.

Varieties of MENA political economies

The Middle has about two-thirds of the world’s oil, nearly all of which is in the Persian Gulf (OPEC 2005). Over half (about 57 percent) of all oil reserves are in the Gulf, while Saudi Arabia alone has about one-quarter of all the oil on the planet. Of course, the extent of resource wealth is also a function of population size. As Table 1 depicts, we divide the MENA countries into three groups, depending on their per capita oil endowments:

1. High oil countries: This category essentially consists of the Gulf Cooperation Council (GCC) countries, with Bahrain at the margin of the group. (Bahrain’s oil per capita, at about $4,963 in 2010, was lower than all the GCC countries; at over $30,000 per capita, Qatar was the highest in the group in 2010."

2. Middle Oil Countries: Algeria, Iran, Iraq, Sudan, Syria, and Yemen are the MOCS countries. We note that Yemen and Sudan are in this group, but not Egypt and Tunisia, although their per capita oil rents are not largely different. These countries clearly differ in the relative importance of oil in their economies, as reflected by the relative weight of oil in GDP.

3. Low oil countries: In these countries, notably Egypt, Jordan, Lebanon, Morocco, Tunisia, and Palestine, oil rents per capita range from about zero, as in Jordan, Lebanon, Morocco, and Palestine, to approximately $304 in Egypt, where oil rents as a percentage of GDP are far lower than in the other two country groupings, as noted previously.

[TABLE 1 HERE]

The boundaries of this taxonomy are porous. Bahrain or Libya could be classified as middle oil country if we apply a larger cutoff point for oil per capita in defining the three groups. Egypt and Tunisia used to derive larger rents from oil in the past (19 and 9 percent of their GDPs, respectively, in the 1980s), but these have fallen in the most recent period (to 7.8 and 3.5 percent of their GDP, respectively, in the 2000s).

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7 We use the term “oil rents” throughout the paper to denote both oil and gas rents.

8 Per capita oil rents are calculated using data on residents rather than citizens due to the uneven availability of data on the latter category. As a result, per capita oil rents are underestimated in the high oil countries, where citizens are sometimes a minority of residents.
In the past, Syria also derived sizable revenues from oil, and while these revenues have fallen, they remain relatively large. Unless important new discoveries are made soon, dwindling Algerian oil reserves will turn that country into low oil economy in a generation. The oil wealth of Sudan and Yemen is recent. Some countries also have other, significant sources for their rents—Syria, Jordan, and Egypt collect rents on their strategic locations, and Moroccan exports are dominated by phosphates, which account for about 30 percent of GDP.

The rule of law in distinct MENA political economies

To facilitate cross-national comparisons, we use indicators from two data projects that tap into the limited dimensions of the rule of law, namely, the widely cited measures of rule of law in the World Bank Governance Indicators (WBGI) developed by Kaufman, Kraay and Mastruzzi (Kaufmann, Kraay, and Mastruzzi 2009), and a measure of a related concept, corruption, as measured by Transparency International.

More precisely, the definitions of the two indicators we use are:

- **Rule of law:** The World Bank Governance Indicators (WBGI) measures of the rule of law captures “perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.” The indicator ranges from -2.5 (weak performance) to 2.5 (strong performance).

- **Corruption:** The Transparency International Corruption Perceptions Index combines twelve different sources on perceived corruption in the public sector and efforts to combat corruption to generate a single country level score ranging from 0 (high corruption) to 100 (no corruption).

In line with a partial and selective notion of the rule of law, these measures capture a very limited understanding of the concept and do not emphasize transparency and accountability, which are central components of many definitions. Khatib’s (Khatib 2013, 25) critical discussion of governance in Qatar, where the royal family and very often citizens are not subject to the same scrutiny and consequences as foreign nationals, underscores the ways in which existing measures, including the WBGI indicators, only depict the truncated form of the rule of law that exists in some MENA political economies. The data used to construct indicators of corruption, which draw on surveys with respondents from the resident business community rather than measures of actual practices, are subject to halo effects (Khatib 2013, 9).

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9 In a supplemental appendix, we present descriptive analyses of these and related indicators from other sources as well as composite indices of distinct measures of the same concept. The results hold using these alternative data sources.
Petty corruption may be uncommon in Qatar, in part because nationals have little incentive to seek bribes because they receive generous economic benefits and because resident foreign workers fear deportation, but rulers do not have to account for their actions. Nonetheless, these biases and important normative concerns should not undercut our main analytical claims because we aim to show relative measures of the rule of law across political economy types and refer to a narrow understanding of the rule of law centered on commercial transactions. Furthermore, the perceptions of citizens and investors rather than objective realities are integral to the political settlements undergirding distinct types of political economies.

As sketched out in the previous section, we expect that the extent of per capita oil rents sets up very different contexts for political exchanges between rulers and ruled, resulting in varied levels of respect for the rule of law. Descriptive analyses of indicators across the different types of MENA political economies assess whether there is empirical support for this expectation. In this section, we depict the values of the selected indicators above both across the high, medium and low oil groups and for individual countries within these groupings from 1998 to 2010, a period that captures a stretch of high oil prices and culminates on the eve of the Arab uprisings.

Figure 1a provides the median of the rule of law over time in the three MENA country groupings and for all lower- and upper-middle income countries globally. As the figure shows, the sub-regions exhibit distinct patterns. In the resource-rich countries of the Gulf with small citizen populations, perceptions of the rule of law are substantially more favorable than in their more populous counterparts. The poorer, populous countries, which lack significant resource wealth, exhibit higher rule of law estimates than the equally populous oil-rich countries, but lower estimates than the Gulf monarchies. To contextualize these values more generally, particularly in light of claims that the region suffers from especially high governance deficits, we include measures for all lower- and upper-middle-income countries in the world. While the middle oil countries are well below the global averages of both aggregate income groups, the other two country groupings are above the benchmark for both groups of middle-income countries. The poorer, high-population low oil countries even exceed the rule of law of lower-middle-income countries.

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10 We use median values because they are more robust to short-term changes within the country groupings and decrease the possibility that outlier values are driving group trends. The results are similar when using the mean values of each group.

11 The rule of law estimate for the LO countries began to decline in the mid-2000s in the years leading up to the uprisings in some of these countries.
The box plot in Figure 1b displays the dispersion of the data around the average annual median values for each grouping in the time period presented in Figure 1a. The box plot depicts median values (the horizontal line in the box), interquartile ranges of the data that lie between the 25th and 75th percentile (the length of the box), the range of the data exclusive of outliers (the length of the whiskers), as well as the shape of the data (the location of the median within the interquartile range and whiskers). Comparing these box plots to the line graphs increases our confidence that the middle oil grouping is consistently different from the high and low oil groups. The figures show that there is substantial overlap between the high and low oil groups, suggesting that differences across these groups are not consistent. The figure also confirms that the middle oil group reports lower rule of law estimates than upper-middle-income countries, but the difference from lower-middle-income countries is not consistent. These consistent patterns of divergence across the MENA political economies are surprising because they contradict the negative overall picture of development outcomes in the region that predominates in many accounts (see, for example, Kuran 2011, Noland and Pack 2007), highlighting instead that many MENA countries actually outperform middle-income averages by a significant margin on rule of law indicators.

[FIGURE 1B HERE]

Figure 1c plots the rule-of-law estimates and per capita oil rents by country. The figure shows that most countries within each group conform to the trends depicted in Figure 1a, although each cluster has some notable outliers.12 The Gulf high oil countries stand out for their high rule of law estimates. Within the group, however, Libya has markedly lower values for perceived rule of law, which is consistent with general depictions of politics under Gaddafi’s rule (Vandewalle 2012). Within the middle oil group, rule of law values are uniformly low, with all country estimates below zero.13

[FIGURE 1C HERE]

What trends and patterns do we see in perceptions of corruption within the region? Figure 2a depicts perceived corruption in the three country groupings over the past decade. Again, similar patterns hold: the middle oil countries collectively have by far the highest reported levels of corruption (lowest scores), falling below the averages for lower- and upper-middle-income countries by wide margins, especially after 2006. The high oil countries are consistently rated as less corrupt than all other

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12 Among the low oil countries, Lebanon exhibits particularly low rule of law estimates, which brings down the cluster’s overall average. That country’s low score is undoubtedly a result of the poor quality of its democracy, in which power-sharing arrangements and political tensions generate political stalemate (Zahar 2005).

13 In general, the rule of law is higher in the monarchies than in the authoritarian republics. But given the overlap between monarchies and high per capita natural resource endowments, this association may not arise from the effects of the regime type but rather may result from resource levels. Furthermore, the two monarchies without oil wealth have markedly lower rule of law estimates.
groups both regionally and globally. The low oil countries, too, had above average scores (i.e., less corruption) than the mean levels for lower-middle-income countries and, at least until 2012, than the average of upper-middle-income countries. The figure therefore suggests that parts of the Middle East are not global outliers with respect to corruption, despite the common refrain that the region is exceedingly corrupt. Conversely, the middle oil countries singularly buttress the resource curse narrative by confirming the association between oil wealth and poor institutional quality.

[FIGURE 2A HERE]

Figure 2b, which depicts box plots of the estimates, confirms the differences between the two oil-rich groups of MENA political economies.

[FIGURE 2B HERE]

On the country level, as shown in Figure 2c, the most corrupt countries are found in the middle oil grouping, with Iraq scoring the lowest (i.e., perceived as most corrupt) of all countries in the region. At the same time, all the political economy groupings exhibit some internal heterogeneity. Within the high oil countries, Libya is again an outlier with particularly high levels of perceived corruption, although it may be the exception that proves the rule given its low levels of per capita oil endowments within the group and the nature of the political settlement established under Gaddafi’s rule. Similarly, Lebanon is perceived as the most corrupt country within the low oil grouping.

[FIGURE 2C HERE]

In sum, the data consistently show that measures of governance associated with private sector development are superior in the high oil GCC countries and lowest in the middle oil countries of the region. In the next section, we further develop our framework to account for these patterns.

4. Rule of Law as a policy choice

The framework we develop to account for the empirical regularities described in the previous section offers a dynamic interaction between both the supply and demand sides to explain the emergence of the rule of law. Here we present core elements of the framework and, in the next section, several extensions. Our focus in on how rulers choose a level of the rule of law and related public goods to support (or restrict) the private sector, and on how this choice is influenced by the size of per capita oil rents.

A key component of a model of state-society relations in an autocratic oil economy, where the need to generate new rents is not salient, is to consider that the development of a private sector may weaken state control. In order to tolerate or encourage the rise of more independence private capital holders, autocrats must
perceive that a dynamic private sector will be in their interests by diversifying the economy, thereby generating a more sustainable flow of income in the future. The risk of private sector development, however, is that it may finance the activity of the opposition, weakening the autocrat’s hold on power.

The argument rests on a framework that draws on two related concepts, notably political settlements (Khan 2010) and limited order arrangements (North 2007). A political settlement is a depiction of the institutional arrangements that emerge from conflicts over resources, most proximately among political and economic elites. In limited access orders, elites divide up rents so that each faction has control over some portion of the economy as a means of reducing conflict over resources. The coalition of rulers and societal actors at the core of political settlements ensures the security of the regime by using the threat of force and by extracting and distributing rents to maintain some popular support. Depending on the breadth of the coalition and the nature of its underlying bargains, these coalitions may result in policies and practices that are more or less “efficient” economically and that use varied levels of repression. In other words, the political settlements that encapsulate distinct patterns of state-society relations generate varied packages of policies and practices that either promote or deter private sector development, which in turn shape development trajectories.

**A simple framework: Oil rents and the rule of law**

A basic formal framework is helpful in clarifying these contentions. We start with a highly idealized model where the level of oil per capita is given exogenously and does not affect the population’s ability and willingness to mount an insurrection. We then relax these assumptions in stages as a way of showing how their introduction produces the key results.

In this first “neutral” model, the autocrat must make two decisions: how much of the oil pie to transfer (T) to population (with 0<T<0, where O is oil revenue), and how much rule of law, R, to establish (with 0<R<1).

The population is assumed to maximize private sector GDP, Y (R), which is assumed to rise with the level of the rule of law R, and it must decide whether to mount a

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14 Parks and Cole (2010, 5) highlight the centrality of elites in creating political settlements, which they define as an “expression of a common understanding, usually forged between elites, about how power is organized and exercised.” The elite bargains that result from “informal processes of conflict, negotiation, and compromise” in turn shape “governance, stability, and the quality and pace of development” (ibid.).

15 For the sake of simplicity, the second decision is assumed to be costless. To the extent that it is costly to build institutions, a justice system, or other public good required to ensure and regulate markets, as in McGuire and Olson (1996), there will be a tendency to provide lower levels of R than implied by this bare-bone model.
revolution or not. The payoffs for the ruler and the population depend on whether a revolution is initiated or not. The payoff matrix is given in Table 2.

[TABLE 2 HERE]

With no revolution, the ruler’s payoff is given by oil revenue, O, minus oil transfers T. The population’s income comes from two sources: the transfer T it receives from the government, plus Y(R), its income from private sector activity, which is dependent on the level of the rule of law, R.

When a revolution takes place, the expected payoff for the population is given by the difference between two terms – revenues minus costs. On the revenue side, we assume that the population gets the full oil revenue O if the population succeeds, and zero otherwise. The expected payoff is thus given by p.O, where p is the probability of the population winning the revolution (given that a revolution is started). On the cost side, we assume that when a revolution is started, a part (c.Y) of private sector production burns and disappears irrespective of whether it succeeds or not. We also assume that c is given exogenously and that 0>c>1. The ruler gets O if the revolution fails and zero if it succeeds, and so his expected payoff is the weighted probability of these two outcomes.

The equilibrium of this simple game can be readily worked out. When O is large enough, revolutions are possible. But a revolution is not desirable because it reduces the size of the pie. The autocrat will thus optimally offer the lowest level of transfers (T*) that are sufficient to deter a revolution, so: T* = p.O – c.Y. It is useful to look more carefully at this expression:

- The transfer T* rise with p.O. This is the proportionality principle, which in this context holds that when oil revenue is higher, or when the probability of a revolution succeeding is greater, there is more for the autocrat to lose, and thus, he is willing to grant the population a larger transfer (T*) to avoid the prospect of the loss posed by revolution. We will show below that this term is proportional to the population’s ability to rebel.
- The optimal transfer T* also fall with c.Y, because the population has more to lose when starting a revolution when Y is larger (since it is assumed to burn). This term thus relates to the population’s willingness to rebel.

In this simple model, the autocrat will want c.Y to be as large as possible, since this reduces the population’s willingness to rebel, without affecting its incentives to do so and, thus, the size of the transfer T*. He can do this by establishing full rule of law at R=1, resulting in the highest possible non-oil GDP at Y(R=1) = Y_{max}.

We now relax the assumption about the exogeneity of p(.) and c(.), and then discuss how the resulting optimal actions are affected by the size of the oil endowment. (In

16 Formally, revolutions start when p.O > cY(zero).
the next section, we address the determinants of the evolution of oil production over time.)

**Accounting for the probability of revolution and costs of rebellion**

What happens when we consider that \( p() \), the probability of a revolution succeeding when it starts, increases with the size of private sector income \( (Y) \) of the population \( (p'(Y)>0) \)? In this scenario, if a revolution starts, a richer population has higher chances of winning. This can occur because of superior organization, access to more weapons, or other reasons. Note the possible asymmetry between the political characteristics of the two sources of income considered in the framework: we consider for now that government spending does not affect \( p() \), while the private sector earning \( Y \) liberates autonomous actors from the influence of the state. We will further assume that the function \( c(Y) \) is concave in \( Y \) – i.e., that the probability of winning an insurrection increases with \( Y \) at a decreasing rate.

Second, we also assume that the share of private sector activity lost during revolution, \( c(Y) \), rises with the size of the private sector. As private output rises, production methods become more sophisticated, with a greater division of labor or the use of more differentiated inputs, and thus become more prone to breakdown during insurrection. Thus, \( c'(Y)>0 \). We assume further that \( c(.) \) is convex in \( Y \) – i.e., that the income share of the loss rises in a richer society.

The ruler’s problem is now changed. Given our simplifying assumptions, \( T^* \) remains unchanged (as \( T \) does not influence \( Y \)), but the choice over \( R \) must now take into account the impact of private sector development on the probability of revolutions succeeding. In particular, the ruler must choose the optimum level of the rule of law \( (R^*) \) that determines private sector output \( Y^*=Y(R^*) \), while taking into consideration the negative impact of \( Y \) on \( p(Y) \), as well as the positive impact of \( Y \) on \( c(Y) \). The determination of \( Y^* \) is illustrated in Figure 3. 17


[FIGURE 3 HERE]

The ruler compares two outcomes, one associated with a corner solution where \( Y^* \) is set at \( Y^{\text{max}} \), and another where it is set at an interior optimal solution \( Y^* \).

In Figure 3, the MC curve indicates the marginal cost of raising \( Y \) by a little, which increases the chance of a revolution by \( p' \) and leads to a marginal loss for the dictator of \( p'O \). The MB curve indicates the marginal benefit for the ruler of raising \( Y \) by a little, which is given by the loss to the private sector if a revolution occurs, an amount that reduces the need for transfers to deter a revolution by an amount \( c' \).18

17 In this simple model, in equilibrium, there will be no revolution. More complex models can afford equilibria with revolutions, along the lines of Gandhi and Prezeworski (2007) for example.
18 Whether this problem has an interior solution depends on the shape of the \( p(.) \) and \( c(.) \) functions, and it can be shown that an interior solution always exists when \( c^*>0 \), and \( p^*<0 \), as we assume. (See appendix for proof).
There are two possible interior solutions at \( Y_1^* \) and \( Y_1^{**} \), where marginal cost and benefit are equated, and are direct implications of our hypotheses about the shapes of the \( p(.) \) and \( c(.) \) curves. In reality, only \( Y_1^* \) is a proper local optimum (that satisfies the second order condition). At \( Y_1^{**} \), the ruler will be better off reducing \( Y \) below \( Y^{**} \) where \( MC > MB \).

The ruler needs to also consider his welfare at the corner solution \( Y^{\max} \). If \( Y^{\max} \) is relatively low, like \( Y_1^{\max} \) in Figure 1, it cannot be an optimum (since \( MC > MB \)). If on the other hand, it falls, like \( Y_2^{\max} \), above \( Y_1^{**} \), then it is a proper global optimum.

With these foundations, we can now study the impact of varying the size of oil rents \( (O) \) on autocrat’s approaches to private sector development. Would an increase in \( O \) lead to a rise or to a fall in the optimum level of rule of law, \( R^* \)? To answer this question, we must verify how \( Y_1^* \) and \( Y^{\max} \) are affected by a rise in \( O \). We argue below that \( Y_1^* \) decreases in \( O \), while \( Y^{\max} \) rises in \( O \), and as shown below, this gives rise to the U-curve relation between \( Y \) and \( O \).

To see this, note first that it is reasonable to presume that \( Y^{\max} \) depends on the level of oil production \( (O) \) because higher oil production generates positive externalities to the private sector, so that richer oil economies have a higher private sector potential than poorer oil economies.\(^{19} \) Thus, we can write \( Y^{\max}(O) \), with \( Y^{\max}>0 \).\(^{20} \)

At the same time, it is possible to show that under our assumptions, \( Y_1^* \) decreases in \( O \) as both the \( MC \) and \( MB \) curves go up when \( O \) rises. (See the appendix for a mathematical treatment).

As a result, when \( O \) gradually rises, the autocrat initially optimally reduces \( Y^* \) and represses the private sector more. But as \( Y^{\max}(O) \) also rises in parallel, at some high enough level of oil, it overtakes \( Y_1^{**} \), and as a result, \( Y_1^* \) ceases to be the global optimum which jumps to \( Y_2^{\max} \). After this point, \( Y^* = Y_2^{\max} \) keeps rising with oil.

Thus, the model above defines three regimes (see Figure 4):

- **Low oil (below \( O^{\min} \))**: Set \( Y^* \) at \( Y^{\max}(O) \)
- **Middle oil**: When \( Y_1^{**} < Y^{\max} \), optimum at \( Y_1^* \), which falls with \( O \) in this range
- **High oil**: When \( O > O^{\max} \), set \( Y^* = Y^{\max}(O) \)

[FIGURE 4 HERE]

It is useful to note that between \( O^{\min} \) and \( O^{\max} \), the equilibria for middle oil countries are below the country’s production potential and are thus inefficient, from a first

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\(^{19} \) Note that in a more developed model, we would also assume that \( Y(.) \) depends on \( O \). We do not do this for simplicity. In a more general model, this extra positive effect of \( O \) on \( Y \) also pushes up \( p(.) \). As a result, the optimal \( R^* \) will be smaller.

\(^{20} \) The Dutch disease literature asserts that \( Y^{\max}(O) \) does not rise linearly, but is concave in \( O \), due to private sector losses at the margin due to exchange rate effects.
best perspective. In these equilibria, the autocratic state only provides low levels of support for the private sector, which stays below potential, in order to improve its prospects of survival. One could construct a deal whereby the state would support the population to produce at full potential, against a commitment to deliver the ruler the same payoff that it enjoys under low production – that is, a smaller share of a larger pie. The population would however prefer to break its promises ex post, unless credible commitment mechanisms can be found ex ante, signaling the importance of the pre-oil political settlements in setting the stage for the productive exploitation of resources.

Examples

Our model predictions, like the indicators we looked at, point to a fairly coherent pattern: As predicted, the middle oil countries of the Middle East exhibit inferior outcomes vis-à-vis private sector development and corruption relative to the other country groupings, and especially compared to the high oil countries. Indeed, the experiences of these two groups of countries have been quite distinct. While governance in both types of countries is built around patronage – a system of rent distribution in which the oil rent is extended to (at least parts of) the citizen population through the provision of social services, subsidized energy, water, and housing, and state employment – the relationships between regimes and their private sectors have diverged markedly.

The wealthy “rentier” states of the GCC have secured themselves and consolidated power by extending relatively broad access to ownership among their citizens. Thanks to high per capita resource wealth, these regimes can place tight restrictions on political voice and generally do not resort to high levels of market repression while avoiding the scale of corruption and institutional weakness found in regimes in middle oil countries. In the high oil countries, the traditional merchant families, who are the economic elites central to Gulf political settlements (Herb 2014, Hertog, Luciani and Valeri 2014, Kamrava, Nonneman, Nosova and Valeri 2016), have an interest in gaining institutionalized protection for their holdings from the rising number of royal family members, whose position as “first among equals” leads them to expect special benefits. The period of lower oil revenues in the 1990s led to faster pro-business reforms, as with Saudi Arabia joining the WTO, and the liberalization of foreign direct investment (FDI), in an attempt to build a more favorable climate for private businesses in the face of globalization (cites).

On the other hand, the middle oil regimes, such as the military-security pouvoir that has dominated Algeria since independence, Saddam’s Iraq, or Baathist Syria, exhibit sharply contrasting patterns of state-business relations. An important mechanism for power preservation in these countries came to include the repression of private-sector activity as well as the development of large state policing and security apparatuses, which we briefly address below. In the 1960s, most middle oil
countries, like developing countries across the world, adopted statist development paradigms. The failures of these strategies starting in the 1980s led to reforms and liberalization elsewhere in the world, including in the high oil countries in the 1990s. In the middle oil countries, however, statist economic approaches were not replaced by private sector led development strategies. In countries such as Algeria and Syria, the only firms that have been allowed to grow are those owned by regime cronies (Haddad 2012). Connections with leaders are paramount for gaining access to economic opportunities while “old guard militants” and those close to them receive privileged access to the spoils (Lowi 2009, 83-84, Roberts 1984). Although the Iranian economy is larger and more complex than that of other middle oil countries, it is not fundamentally different (Harris 2013). In all these countries, the liberalization of markets, when reforms were undertaken, were short-lived at best, as in Algeria during early 1990s and Syria in the early 2000s.

5. Model extensions and cross-national variation
The heuristic model sketched above lends itself to several extensions that shed more light on related aspects of the political economy of oil countries. Below, we look more carefully at several related dimensions of the political economy of oil economies, including the conditions under which oil reserves are exploited extensively, the implications for clientelism and cronyism, the determinants of the balance between repression and cooptation, and the ways in which variation in the probability of successful insurrection and the costs of rebellion affect the support of the autocrat for private sector development. In so doing, we touch on possible explanations for the specificities of various oil producing countries.

Endogenizing oil reserves
In the discussion thus far, we have taken oil endowments as exogenous. Why do some countries end up with extensive oil production, while others do not? A precondition for high levels of oil exploitation is to have high reserves within the national territory, but many countries with high geological reserves, like Iraq, were unable to develop them to become large-scale producers. The development of production requires high levels of fixed investments, which in turn requires a minimum of political stability. However, recall that our main result on the U-curve of oil development suggests that the discovery of oil in a poor country increases political risks considerably for its autocratic rulers. At low levels of development, citizens do not have much to lose (i.e., \( c.Y \) is small), and have much to gain (i.e., \( p.O \) is tempting) by undertaking a revolution.

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21 Another area in which states spent large amounts of resources was on military spending and the maintenance of large, lethal arsenals and standing armies, partly to protect their now more valuable oil resources from possible predation by foreign neighbors (as in Iraq, Iran or Kuwait) or by possible secessionist rebels at home (as in Sudan, Yemen or Iraq).
Before oil production rises, the risk of insurrection cannot be easily eliminated by rent distribution, since the rent is not yet extracted. Moreover, setting up the institutions, which are based on underlying political settlements that can sustain a system of transfers neutralizing incentives to rebel, takes time and effort. Thus, the development of oil reserves is contingent on the ability of rulers to establish early on a credible commitment to distribute oil rents in the future according to the proportionality principle. Alternatively, in the absence of such a credible commitment, the risk of rebellion would rise before oil reserves can be fully exploited, preventing large-scale production.

Thus, the early phase of intensifying the extraction of oil is particularly difficult to traverse successfully and some countries get bogged down in this early phase. This is illustrated in Figures 5a and 5b, which show how oil production grew over time in middle and high oil countries. The figures show that middle oil regimes, especially Iraq and Libya, were unable to develop their production levels above the capacity that they inherited from previous regimes or colonial times. Algeria in the 2000s, as well as Syria and Egypt in the mid-1980s, were only successful in achieving marginal increases in oil production. The difficulty of Lebanon at present to even start developing gas reserves perfectly illustrates the time consistency problem (cites). Iraq could have been a high oil country, given its huge reserves, which are second only to Saudi Arabia, but it was unable to do so. In post Iraq war, the new government has drawn plans to increase its capacity to Saudi levels, but has failed so far to attract the investment needed to do so (cite).

In contrast, the oil producers of the GCC steadily increased production over time (Figure 5b). It was not inevitable that the Gulf states would be able to extract such high volumes of oil. Rather, to do so required huge investments in oil facilities and was shaped by a history of cooperation among rulers and key groups within their respective societies. As the “revisionist” literature on the mediating effects of institutions on resource wealth demonstrate (Waldner and Smith 2015), the historical evolution of institutions are therefore an important complement to our analysis of rulers’ incentives. The emergence of the modern Gulf states, generally around the same time as the twilight of colonial empires worldwide, coincides with or predated the discovery of oil reserves in the Gulf, This timing and set of historical developments permitted old structures of patrimonial and monarchical governance in the Gulf not only to endure, but to prosper — a relationship that continues into the present. (Hertog, Luciani, and Valeri 2013). In other words, oil

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22 Their emergence also coincided with a broad phase of rapid global industrialization that created great demand for new energy sources. The waning of colonial empires and the discovery of oil are not a coincidence per se, but the increasing demand for energy is a legacy of the vast twentieth-century colonial projects of industrialization and development worldwide.

23 Furthermore, who was included in the national political community – that is, who gained citizenship rights – was as much a political decision as it was a legacy of prior settlement patterns.
“underpinned a system of interlocking interests and privileges” already in place prior to its discovery (Owen 2008).

**Clientelism and cronyism**

Much ink has been spilled on corruption and rising cronyism in Middle Eastern countries (Cammett, Diwan, Richards and Waterbury 2015, Diwan, Keefer, and Schiffbauer 2014, Henry and Springborg 2010, Heydemann 2004, Hibou 2006, Schlumberger 2008). Our model and discussion have so far abstracted from discussing the political economy mechanisms of cronyism, and of clientelism, which underpin the literature on oil economies. To what extent do these phenomena fit in the framework we develop, and how does incorporating them affect our expectations about the conditions for private sector development in Middle Eastern political economies?

Cronyism can be thought of as a relationship between privileged firms and rulers, where the first receive economic privileges, in exchange for political (and possibly financial) support (cite). In the context of oil economies, the only coherent theory of private sector activities, which was developed recently by Mazaheri (2016), emphasizes rent-seeking behavior. In his view, rents are provided to business elites in the form of private sector advantages (e.g., contracts). In countries with high oil endowments, elites benefit substantially, and will fight harder to keep their advantages – a sort of voracity assumption. Unlike our framework, however, he does not consider that rulers care about discontent among non-privileged firms, which can increase the risk of insurrection. In our model, we assume that the top-ranked elite circle shares part of the spoils (O-T) with the ruling class. The question remains as to how this sharing affects the rule of law.

In our framework, crony capitalism can be consistent with an intermediate level of rule of law that allows for limited forms of private sector development, while at the same time excluding from the private sector firms suspected of sympathizing with the opposition. Crony-owned firms also become agents of power preservation by becoming instrument of clientelism, for example by offering jobs to supporters of the regime. In the high oil countries however, cronyism is less rampant. The private sector, which initially consisted of trading families associated with the rulers, receives large benefits, but these tend to be available to all or most citizens and allocated in an almost programmatic fashion rather than on a discretionary basis. These benefits include protection against foreign competition, some exclusivity in access to state contracts, massive energy subsidies, and a free flow of foreign labor (Hertog, Luciani and Valeri 2014, cites).

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24 Distinct experiences of colonialism may have contributed to variation in post-independence institution building. As Acemoglu, Johnson, and Robinson (2002) and Mahoney (2010) argue, the legacy of colonial-era extraction economies correlates with the weakness of post-independence state institutions. The GCC states were only lightly incorporated into both Ottoman and European empires.
We have assumed in our model, for simplicity, that oil transfers, unlike private sector revenues, do not affect the probability of winning an insurgency \( p(.) \). In reality, targeted and personalized transfers can win consent. This is typically achieved through clientelistic networks that trade consent for privileges, an exchange which tends to be tightly monitored by patrons at various levels of in the network (cite). Such discretionary transfers include selective hiring in the public sector, access to social benefits, or support for social institutions that can enforce consent (e.g., religious orders). To the extent that clientelism is effective, \( p(.) \) decreases with \( T \), and the autocrat can afford to be more permissive towards private enterprise. This presents an interesting paradox: More successful clientelism goes hand in hand with a permissive attitude to private sector development. In Saudi Arabia, for example, a system of dense clientelistic networks, such as around the army, Republican Guards, the Ministry of Labor, has coexisted with islands of quality in the public sector (e.g., Aramco) and the development of globally competitive firms (Hertog 2010a).

**Repressing people and markets**

A dominant idea in the literature on authoritarianism in general and on the Middle East in particular is that autocrats use a mix of repression and co-optation to stay in power (see, for example, Bellin 2004, Bueno de Mesquita et al. 2004, Posusney 2004, Svolik 2012). In essence, two main strategies are available to rich autocrats – first, developing a distributive state and building clientelistic relations to stabilize their rule; or, second, using oil rents to develop a coercive apparatus. The “optimal” mix of sticks and carrots can be thought to happen around the proportional share of oil rents, to apply differently to various groups, and to depend on the costs and benefits of these two approaches to wielding power. For example, a first circle of elites would share the rent surplus \( (O-T) \), a second circle of powerful groups could command a large share of \( T^* \), and a third circle that includes less organized and weaker groups may get a small share of \( T^* \) and be further controlled through a repressive governance system.

In such a framework, repressing people to constrain their voice and repressing firms to reduce their ability to finance autonomous opposition movements are likely to be complementary strategies. This is because physical repression makes the establishment of the rule of law less credible. Thus, we would expect that in a broader model, in which autocrats select optimal levels of transfers, rule of law, and physical repression, the levels of the latter two would be negatively correlated – that is, that low rule of law would be associated with high repression. The precise logic of physical repression, however, likely depends on a host of additional factors. From this perspective, then, it is logical to presume that rulers with higher per capita resource wealth at their disposal will both choose to establish a higher rule of law environment and to use rent distribution more than repression in consolidating their rule, other things being equal.
These predictions accord well with empirical observations on the use of repression in the Middle East. In order to measure repression, we use data from the Cingranelli-Richards Human Rights Data Project (CIRI) (2010). Figures 6a, 6b and 6c depict country scores on the CIRI Physical Integrity Rights Index, which measures physical repression of populations at the country level and ranges from 0 (i.e., no government respect for physical integrity rights) to 8 (i.e., full government respect for physical integrity rights) (CIRI 2014).

The rankings of the MENA political economy groupings arrive in line with the patterns exhibited by the other governance indicators depicted above. The oil-rich, sparsely populated countries generally employ the lowest levels of physical repression (highest scores). Conversely, the oil-rich, populous countries have consistently resorted to the highest levels of violence against their citizens. When benchmarked against the average use of repression for middle-income countries, the middle oil countries consistently have used more violence while the high oil group have employed less violence than the middle-income average for almost the full three-decade period covered in the figure.

[FIGURE 6A HERE]

Figure 6b, which shows box plots of the estimates, generally confirms that the middle oil group is a consistent negative outlier vis-à-vis all other country groupings in the figure both within and beyond the MENA region.

[FIGURE 6B HERE]

Within each political economy grouping, and especially, within the middle oil countries, there is some variation (see Figure 6c). While countries such as Iran, Sudan, Syria, and Yemen have repressed their populations extensively, Algeria is a partial outlier because it employed comparatively less violence against its citizens than others in this middle oil group. The high oil group also exhibits some cross-national variation, with Libya and, to a lesser degree, Saudi Arabia employing more repression against their populations than other regimes in this category.25

[FIGURE 6C HERE]

**The effects of low-probability revolutions and low-cost rebellions**

Our model suggests that the probability of successful revolution \( p(.) \) and the costs of rebellion \( c(.) \) play a critical role in political economy equilibria (or settlements), by conditioning the attitudes of rational autocratic rulers towards private sector...
development. As a result, variations in these factors across countries (or time) can explain observed variations in rulers attitudes to private sector development.

Let us start by focusing on \( p(.) \). If oil production within a country were in an isolated and easy to defend enclave territory (e.g., on an island or offshore in deep waters), then ruler incentives to share the benefits of oil shrink accordingly. (Recall that \( T \) increases in \( pO \).) These considerations may help to explain the puzzling case of Equatorial Guinea, one of the largest oil producers in Africa that features per capita oil endowments on par with the UAE, yet a country with rampant poverty and underdevelopment. With a population estimated at 1.2 million, oil rents in 2012 were at about $11,000 per capita, placing the country within the high oil country group. However, these large revenues have not benefited the majority of the population: 77% of the population was estimated to be below the poverty line in 2012, the under 5-mortality rate was at 69/1000, only 62% was only in primary schools, and only about 51% had access to clean water. Furthermore, the country ranked 144 on the HDI index and 165 on the World Bank’s Doing Business Index ((Human Rights Watch 2009). Most oil earnings are funneled into projects that cater to elites or strengthen the state security apparatus rather than towards public goods designed to promote well-being or productive investment (Human Rights Watch 2009, McSherry 2006, 26, Wood 2004, 564). Yet, additional development of oil and gas deposits continues at a fast rate.

The revisionist, historical institutionalist explanation would argue that this situation is explained by the fact that the present regime was repressive and dictatorial prior to the discovery of oil. In 1968, Equatorial Guinea gained formal independence from Spain. In the founding elections, Macias Nguema, who belonged to a radical wing of Fang nationalists, prevailed. Soon after his election, he began to repress potential opponents, especially from the Bubi people, and, after a failed coup in 1969, he rewrote the constitution, concentrating all powers in his office (Cronjé 1976, 10-13, McSherry 2006, 25, Sundiata 1990, 133). In 1979, Macias’ nephew, Lieutenant Colonial Teodoro Obiang Nguema, overthrew him and he still rules today with an iron grip. Important government posts and the army generals and soldiers are exclusively held by members of the presidents loyalists and family members from his Esangui tribe, which has benefited disproportionally from the spoils of oil (Frynas 2004, 541) to the detriment of other tribes, and especially the large Bubi group (Cronjé 1976, 7-8).

Our theory would predict that Obiang should be overthrown by a coalition bent on sharing oil revenues more broadly. But the fact that this has not occurred is not necessarily because a purely historical explanation is superior to an incentive-based theoretical model. Instead, this apparent anomaly may arise in part because this is case in which \( p \), the probability of winning an insurrection, is very small. In Equatorial Guinea, oil installations are largely in deep water, and the capital where the elite resides is on an island, making both oil production facilities and the seat of government easy to defend, and reducing the likelihood of successful insurrection.
In low countries on the other hand, insurgencies are more likely to happen unless high levels of transfers are made. This is more likely to be the case in agrarian societies with more dispersed populations, such as Sudan and Yemen. These are large countries, which are costly to police. As a result, it is more difficult to construct coalitions that can preserve security, and insurgent groups can develop in the periphery to contest central authorities. This can help to explain recurrent instability in these countries, where the broad coalitions needed to maintain the system could not be funded with the low levels of oil production of these countries. Not coincidentally, governments have not been able to develop potentially large oil reserves and these countries have become locked in a violence trap that prevents them from fully developing their oil reserves.  

6. Conclusion

The analytical framework we present in this paper implies that, as per capita oil rents rise, discontinuities emerge in governance under authoritarianism, leading to distinct levels of the rule of law and related indicators across different types of political economies. Our explanation for these differences emphasizes the distinct incentives facing rulers in high and low population oil-rich countries to extend credible commitments to segments of the population.

Conceptually, our treatment of the question of how rulers choose levels of respect for the rule of law, and how much they are willing to tolerate the existence of a private sector, depends on the interplay of the population’s ability and willingness to rebel successfully. The ability of the population to mount an insurrection depends on the extent to which higher private sector revenues affect the probability of successful insurrections. Private sector willingness to finance a risky insurrection is contingent on the extent of assets at risk that the private sector stands to lose when insurrections fail. Our contention will be that the first factor (i.e., ability) is more important than the second (i.e., willingness) at low levels of oil, but that as oil rents rise sufficiently, the latter becomes more important. As a result, autocratic rulers have incentives to develop rather than repress the private sector when oil revenues – and oil transfers – are large enough to make a wealthier private sector less willing to finance an insurrection, and a richer society only marginally more able to mount one. At the same time, these high oil political economies are economically, but not politically inclusive, a combination that is unlikely to be sustainable in the long run (Acemoglu and Robinson 2014).

We are not economic determinists: The development policy choices and ideological orientations of postcolonial leaders and the economic and political trajectories of

26 Looking outside the MENA region, the case of Chad is instructive of the time-consistency problem. The Deby government tried to distribute oil more broadly across the population as a pre-condition to get the World Bank to invest in oil capacity but then faced a rebellion within the regime’s own Zaggawa tribe and had to revert to rewarding a narrower coalition (cites).
Middle Eastern states undoubtedly result from factors beyond resource endowments. In particular, as the resource curse revisionists argue, pre-oil politics affects the nature of political settlements that shape the ability of the ruler to establish credible commitments to share the wealth and to engage in large-scale oil production in the first place.

Our theoretical framework contributes to ongoing research on the alleged resource curse in hydrocarbon-rich economies. We suggest that the resource curse affects different types of oil producers in distinct ways, leading to varied patterns of respect for the rule of law. The resource curse, such as it exists, appears to be a “middle oil curse” rather than a dilemma facing oil exporters more generally. Our findings also add to our understanding of the conditions under which respect for the rule of law – albeit in a truncated sense centered on commercial transactions – may take root in nondemocratic polities. We theorize the incentives that rulers face or do not face in distinct types of political economies to extend credible commitments to elites in their societies. Future research should explore these findings in other contexts, situating the MENA region in broader cross-regional comparative context.
Appendix
The ruler problem is to choose the level of $Y$, $Y^*$ that maximizes his payoff $A(.)$:

$$A(Y) = [O-T] = (1-p(Y))O + c(Y)Y$$  \hspace{1cm} (1)$$

Taking the first derivative with respect to $Y$, we have the first order maximization, which must be equal to zero at $Y^*$:

$$dA(.)/dY = -p'(Y^*)O + c'(Y^*) = 0$$  \hspace{1cm} (2)$$

and thus, $Y^*$ is such that:

$$p'(Y^*)O = c'(Y^*)$$  \hspace{1cm} (3)$$

Whether this problem has an interior solution or not depends on the shape of the $p(.)$ and $c(.)$ functions. One can verify, by taking the second order condition that an interior solution will exist when:

$$c''(Y^*) < p''(Y^*) \cdot O$$  \hspace{1cm} (4)$$

which means that the marginal cost must be above the marginal benefit at the optimum point $Y^*$.

To evaluate the effect of an increase in $O$ around $Y^*$, we apply comparative statics to equation (4) to see the effect of $O$ on $Y^*$. Differentiating relative to $O$, we have:

$$-p''(Y^*) \cdot (dY^* / dO)O - p'(Y^*) + c''(Y^*) \cdot (dY^* / dO) = 0$$

which leads to

$$dY^* / dO = p'(Y^*) / [c''(Y^*) - p''O]$$  \hspace{1cm} (5)$$

When $O$ increases, the risk of revolution becomes more costly by $p'$ (the numerator). This effect is mitigated or exacerbated by the difference between the slopes of the MC and MCB—i.e. by $[c'' - p''O]$, a quantity that is negative when there is an interior solution, as per the SOC (4). Thus, $dY^*/dO$ is negative around an interior solution.
## Tables and Figures

### Table 1: Political Economies of the Middle East (2010)

<table>
<thead>
<tr>
<th></th>
<th>Oil and Gas Rents per capita (USD)</th>
<th>Oil and Gas Rents (% of GDP)</th>
<th>GDP per capita (current 2010 USD)</th>
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<td><strong>High Oil Countries</strong></td>
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Table 2: Payoff matrix

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<td>T + Y (R)</td>
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<tr>
<td>Revolution</td>
<td>(1-p) O</td>
<td>p. O + Y(R).(1-c)</td>
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Figure 1a: The rule of law in the MENA political economy groups, median values of 1996-2012

Figure 1b: Box plots of rule of law estimates in the MENA political economy groups, 1996-2012
Figure 1c: Rule of law estimates and oil rents per capita by country, 1996-2012

Instance: Rule of Law by Oil and Gas Rents per capita

Source: World Bank Governance Indicators, various years

Figure 2a: Perceptions of corruption in the MENA political economy groups, 2003-2013

Instance: Corruption by Political Economy Subgroup

2003-2013

Source: Transparency International, Corruption Perceptions Index, various years
Figure 2b: Box plots of perceived corruption estimates in the MENA political economy groups, 2003-2010

![Box plots of perceived corruption estimates in the MENA political economy groups, 2003-2010](image)

Figure 2c: Perceived corruption estimates and oil rents per capita by country, 1998-2010

![Perceived corruption estimates and oil rents per capita by country, 1998-2010](image)

Source: World Bank Governance Indicators; Transparency International CPI
Figure 3: Determination of $Y^*$

Figure 4: Equilibrium Rule of law, $R$, as a function of Oil rents, $O$
Figure 5a. Oil production in MO countries, 1975-2015 (mbd)

Source: OEPC, various years. [NB: ADD IN EARLIER DATA, AND DATA ON GAS]
Figure 6a: Repression in the MENA political economy groups, 1981-2011

Figure 6b: Box plots of repression estimates in the MENA political economy groups, 1981-2011
Figure 6c: Repression estimates and oil rents per capita by country, 1998-2010

Source: CIRI database
References (TBC)


Khatib, Lina. 2013. Corruption in Qatar? The Link between the Governance Regime and Anti-Corruption Indicators. European Research Centre for Anti-Corruption and State-Building.


Waldner, David, and Benjamin Smith. 2013. Charlottesville, VA.