Autocratic Legislatures and Expropriation Risk

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An important question for international investors concerns the relationship between political institutions and property rights. Yet a debate remains over whether authoritarian institutions promote favorable investment climates. Using data on oil nationalization in a sample of autocracies, this study finds that legislatures are correlated with lower expropriation risk in non-personalist dictatorships, but a higher risk of nationalization in personalist regimes. The results show a consistent pattern between authoritarian institutions and property protections, for which context matters.

The economic risks posed by different forms of governance give both foreign and domestic investors a strategic interest not only in democracy, but also in different forms of authoritarianism.[1] Of particular importance is the relationship between political institutions and property rights favorable to investors. Property rights refer to the charge given to an individual over herself and her belongings, particularly the ability to accumulate and possess personal wealth.[2] There is a widely held expectation that the protection of private ownership increases individual incentives to produce, to engage in economic transactions and to save.[3] Nevertheless, property rights conferred without the institutional mechanisms to support them lack credibility, since acquired personal wealth is not assured against confiscation in the future.[4] Nationalization – or the seizure of private sector assets by the government – strongly influences productivity and the incentives to invest, thereby threatening the potential revenue from investment.

As Guriev, Kolotilin and Sonin (hereafter GKS) ask, '[i]f property rights are so vital for economic efficiency, why are they so hard to uphold'?[5] Conventional wisdom suggests that property rights develop in tandem with democratic institutions.[6] However, seemingly democratic institutions – such as political parties and legislatures – also exist in many autocracies. Formal institutions support elites' ability to monitor and challenge the decisions made by an executive. To the extent that such institutions facilitate power sharing between the leader and political elites in autocracies, they should therefore correlate with greater protection of elite asset holdings. As Weymouth notes, the association of political institutions with positive economic outcomes implies the ability of elites to constrain the leader's actions.[7]

Much of the literature on political institutions explains their emergence as the product of leader and elite interactions. In the absence of formal institutions – the established laws, practices and customs by which a society operates – leadership is likely to be derived from

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  [1] Jensen 2008.
  [2] North 1981.
  [3] Haber, Razo, and Maurer 2003; Justesen 2014; Justesen and Kurrild-Klitgaard 2013; Melton 2014.
  [4] Justesen 2014; Justesen and Kurrild-Klitgaard 2013; Weymouth 2011.
  [5] Guriev, Kolotilin, and Sonin 2011, 302.
  [6] Moore Jr 1966; North 1981.
  [7] Weymouth 2011.

violence and/or resource advantages *vis-à-vis* the rest of the population. No leader can stay in office alone, however; a leader's political survival depends in part on a support coalition, no matter how small. Autocratic leaders indeed have incentives to keep their ruling coalition as small as possible to limit constraints on their power and the amount of resources that must be shared.[8] A change in the support coalition should only occur from the leader's *ex post* recognition that formerly excluded citizens are critical for his or her continued longevity.

The means by which supporting coalitions change vary: for one, a leader may offer to share power and resources to solicit co-operation or encourage productivity.[9] Citizens may also demand recognition and inclusion by virtue of their ability to make credible coercive threats.[10] Power sharing may therefore reduce threats as much as it arises from them. However, there is a well-known commitment problem between the leader and the support coalition. The leader cannot credibly commit to refrain from confiscating resources from coalition members who outlive their value. To this end, scholars argue that political institutions emerge to give credibility to a leader's promises.[11] The creation of independent veto players, structured competition and checks on the executive add credibility by regulating the future allocation of political power.[12]

According to Jensen, Malesky and Weymouth (hereafter JMW), benefits afforded by the creation of a legislature include lower transaction costs of negotiation, repeated interactions, and the potential to highlight and shame shirkers.[13] Thus, either in the process of democratization or authoritarian fortification, a legislature can emerge along with parties and elections as a means of incorporating vital regime insiders. In general, political institutions are associated with longer tenures among autocrats; they comprise more durable autocracies, and they correlate with authoritarian stability.[14]

Research also suggests that institutionalized regimes might provide better investment climates. Scholars have demonstrated that asset expropriation is more likely to occur where there are fewer institutional checks on the government.[15] Without constraints on the executive, it is difficult for the government to credibly commit to not expropriate; as such, studies find that democratic institutions correlate with lower levels of investment risk.[16] Nationalizations may also be more likely to occur when the price of the good is high, and during times of political instability.[17]

JMW note that the empirical evidence 'offer[s] robust correlations between binding authoritarian assemblies and private investment and economic growth'.[18] Yet a debate remains as to whether these institutions foster favorable investment climates in autocracies, and in particular whether they constrain the state from expropriating private assets. For example, JMW argue that authoritarian legislatures are insufficient to prevent nationalization.[19] Instead, they posit, legislatures facilitate stronger contracts among private actors by supporting negotiations and information sharing. Pointing to lower values of a property rights index in countries that have multiple parties in the legislature, they show that autocratic legislatures are associated with

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[8] Bueno de Mesquita et al. 2003.
[9] Gandhi and Przeworski 2007; Moore 1966; North 1981.
[10] Acemoglu and Robinson 2006; Boix and Svolik 2013; Svolik 2012.
[11] Acemoglu and Robinson 2006; Boix and Svolik 2013; North and Weingast 1989; Svolik 2012.
[12] Acemoglu and Robinson 2006; Boix and Svolik 2013; Gehlbach and Keefer 2012; Weymouth 2011.
[13] Jensen, Malesky, and Weymouth 2014.
[14] Gandhi 2008; Geddes 2003; Magaloni 2008.
[15] Guriev, Kolotilin, and Sonin 2011; Jensen 2008.
[16] Guriev, Kolotilin, and Sonin 2011; Jensen 2008.
[17] Albertus and Menaldo 2012; Guriev, Kolotilin, and Sonin 2011.
[18] Jensen, Malesky, and Weymouth 2014, 4.
[19] Jensen, Malesky, and Weymouth 2014.

stronger corporate governance rules but not necessarily lower expropriation risk. They also find that multiple political parties protect minority shareholders in autocracies.

According to JMW, '[t]here is no evidence that authoritarian legislatures affect expropriation risk or other measures of vertical property rights protections'.[20] Autocratic legislative assemblies may not protect property rights, but instead provide more information. Moreover, the authors suggest that authoritarian institutions and elite interests are not causally related, but are instead influenced by unobserved heterogeneity among authoritarian regimes. Others have provided partial answers regarding the interconnectedness of authoritarian legislatures and expropriation risk, arguing that the level of protection afforded to property rights depends on the extent to which political power is divided among veto players.[21] Using data on oil nationalizations, we re-examine the question of whether autocratic legislatures protect investors from state expropriation. Our analysis supports an interest in 'mov[ing] beyond subjective indicators of property rights derived from private-sector rating agencies and think tanks, instead focusing on actual investor behavior'.[22] Our central finding is that the effect of autocratic legislatures on expropriation risk varies by autocratic regime type.

CONTEXT MATTERS

While a number of studies focus on the specific role of legislatures, or their effects that are independent of political parties, few examine how legislative assemblies operate in different autocratic contexts.[23] Recent research, however, demonstrates that differentiating among autocratic contexts can help explain important outcomes such as authoritarian longevity and conflict behavior in non-democracies.[24]

Early studies of authoritarianism argued that personalist regimes differ from other autocracies, such as military and party-based dictatorships, in the methods by which they rule.[25] Some posited that personalism is best conceptualized as a continuous trait that is a secondary feature of institutional settings, but others observe that dictators create and maintain formal political institutions with little real power – often in lieu of empowering military or delegative organizations.[26] The domination of political channels by an individual leader characterizes what others have termed 'neo-patrimonial rule', a type of authority considered the most salient for many non-OECD countries and an attribute of politics in many African countries.[27]

In personalist *regimes* the autocratic leader has consolidated power over organizations, such as the military or the support party, through which members of the support coalition could 'prevent the leader from taking personal control of policy decisions and the selection of regime personnel'.[28] Autocratic regimes lacking powerful formal institutions are not necessarily unstable, but they are often long lasting.[29] Both monarchies and personalist regimes share

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[20] Jensen, Malesky, and Weymouth 2014, 17.

[21] Justesen 2014; Justesen and Kurrild-Klitgaard 2013; Melton 2014; Weymouth 2011.

[22] Weymouth 2011, 212.

[23] Boix and Svolik 2013; Gandhi 2008; Jensen 2012; Magaloni 2008; Svolik 2012; Wright 2008.

[24] Geddes 2003; Hadenius and Teorell 2007; Smith 2005; Weeks 2008.

[25] Bratton and van de Walle 1997; Huntington 1991; Jackson and Rosberg 1982. For a discussion of datasets on authoritarian regime type, see Wilson (2014).

[26] Bratton and van de Walle 1997; Cheibub, Gandhi, and Vreeland 2010; Geddes 2003; Hadenius and Teorell 2007; Svolik 2012; Weeks 2008; Wright 2008.

[27] Bratton and van de Walle 1997; Clapham 1985. '[T]he characteristic feature of neopatrimonialism is the incorporation of patrimonial logic into bureaucratic institutions' (Bratton and van de Walle 1997, 62).

[28] Geddes 2003, 53.

[29] Geddes 2003; Hadenius and Teorell 2007.

longer tenures and may together constitute a common 'hybrid' form of government.[30] In such regimes, formal institutions may be unlikely to constrain a dictator's opportunistic behavior. Consistent with the expectation that the influence of formal political institutions differs across autocracies, Wright finds that the cross-national correlation between legislatures and economic outcomes, such as growth and domestic investment, varies by regime type.[31] This finding is broadly consistent with Gandhi's study of autocratic institutions, but suggests that in some regimes – in which the leader has consolidated personal power over the support party and the military – formal institutions do *not* positively influence growth and investment.[32]

Svolik articulates a logic for understanding why political institutions are unlikely to enhance power sharing – and potentially constrain elite expropriation – when the dictator has successfully consolidated personal power over other elites.[33] He argues that formal political institutions, such as legislative bodies, aid power sharing by lowering the costs of monitoring the power-sharing arrangement for regime elite.

Importantly, his model shows that institutions are only likely to facilitate power sharing when the dictator's power *vis-à-vis* the ruling coalition is not excessively high. Repeated, successful power grabs by the leader can give rise to an 'established dictatorship' in which the leader has acquired sufficient control to restrict institutionalized avenues for deposing him.[34] When the dictator has enough power, institutions cease to work as monitoring devices because his commitment to refrain from further opportunistic power grabs is no longer credible. In short, when power sharing is infeasible because one bargaining partner dominates the interaction, institutions cannot augment power sharing. Institutions in dictatorships where the leader has consolidated power over the military and political parties – namely personalist regimes – are therefore unlikely to 'bind the grabbing hand'.

Although formal political institutions may lack the ability to constrain the leader in personalist contexts, they can still have instrumental value for the leader by, for example, serving as venues in which the dictator distributes patronage and identifies potential opponents. Indeed, Migdal notes that an important tactic for political survival in weak states is to 'shuffle' strong – and thus potentially threatening – local notables through the state bureaucracy to prevent them from organizing and independent power base.[35] For example, while Rafael Trujillo developed a stranglehold on domestic institutions in the Dominican Republic, he used the legislature to manipulate and subdue elites.[36] Legislative assemblies used principally for this purpose may not necessarily serve as conduits of information for anyone other than the leader, and thus do not facilitate the monitoring that enables credible power sharing, as proposed by Svolik.[37]

Gehlbach and Keefer posit an alternative logic that nonetheless points to personalist rule as a context in which we should not expect political institutions to constrain autocratic leaders.[38] Party institutionalization, they argue, facilitates collective action among regime elites so they can credibly threaten the leader with removal and thus deter opportunistic behavior – particularly asset expropriation.

[30] Hadenius and Teorell 2007; Geddes, Wright, and Frantz 2014.
[31] Wright 2008.
[32] Gandhi 2008.
[33] Svolik 2012, chapter 4.
[34] Svolik 2009.
[35] Migdal 1988, 214.
[36] Hartlyn 1998; Turits 2003; Wiarda 1968.
[37] Svolik 2012.
[38] Gehlbach and Keefer 2012.

In their empirical analysis, the authors employ measures of party institutionalization that closely match concepts captured in the Geddes categorization of *personalist regimes*.[39] Questions used to code the latter include: (1) whether the dictator lacks a support party (more personalist), (2) whether the party was created after the dictator gained power (more personalist), (3) whether the dictator chooses the party leaders (more personalist), (4) whether there is an established procedure for rotating the highest office (less personalist) and (5) whether the party faces multiparty competition or holds intraparty elections (less personalist). These characteristics, which define personalist regimes, are similar to the concepts in Gehlbach and Keefer's proxies for party institutionalization: whether the party pre-dates the ruler and the party survives leader transitions (age of ruling party), regular (rather than irregular) leader transitions and legislative competitiveness.

Gehlbach and Keefer's measures thus capture the same variation in autocracies as an indicator of personalist rule. For example, Figure A1 in the Appendix shows that: (1) ruling parties tend to be much older than individual leaders in party and military regimes but less so in personalist ones[40] and (2) the share of regular leader turnover (as a fraction of all leader turnover) is lowest in personalist regimes. Thus independent measures of similar concepts are correlated in a way that suggests that the presence of a legislature, at least in this historical data, measures a different level of 'constraint' across personalist and non-personalist dictatorships.

Whereas Svolik concentrates on the informational role of legislatures in augmenting monitoring, Gehlbach and Keefer stress the logic of collective action. Both studies, however, point to the same group of autocracies in which formal political institutions should be weak. Our goal is not to disentangle these two logics empirically, but rather to show that the influence of 'off-the-shelf' cross-national measures of institutional constraint are likely to differ across distinct autocratic contexts. In doing so, we build on prior studies that point to a similar group of dictatorships in which institutions are *unlikely* to facilitate credible power-sharing constraints: personalist autocracies. We demonstrate that a leader's ability to dominate formal institutions differentiates personalist regimes from other types of autocracy and modifies the relationship between authoritarian legislatures and expropriation risk.

VERIFYING AND EXTENDING EXTANT RESEARCH

To illustrate the importance of domestic political context, we revisit a central finding in JMW, which suggests that legislatures are not correlated with international investors' perceptions about property protection. The dependent variable is a transformed measure of political risk provided by the Belgian political risk insurance agency (ONDD) for 2002. The measure is a seven-point rating for a 'fifteen-year, forward looking insurance contract', for which higher values represent a lower expropriation risk. According to JMW, the data 'are representative of the political risk insurance ratings, as ONDD serves as a price leader in that industry'.[41] The main explanatory variable is a binary indicator for whether a legislature exists (*Legislature*).[42] The sample contains countries coded by Hadenius and Teorell as non-democratic in 2002.[43]

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[39] Geddes 2003.

[40] Gehlbach and Keefer argue 'parties that pre-date rulers are more likely to be organized independently of them and thus to impose greater restraints. Second, and conversely, parties that permit collective action are more likely to survive ruler transitions and thus to be older than the tenure of any particular ruler' (2012, 5).

[41] Jensen, Malesky, and Weymouth 2014, 15.

[42] Gandhi 2008.

[43] Hadenius and Teorell 2007.

TABLE 1   *Replication of Jensen, Malesky and Weymouth (2014)*

	(1)	(2)	(3)
	JMW (2014)	GWF (2014) autocracies	Added variables
Legislature	0.170	0.387	1.993
	(0.460)	(0.558)	(0.535)***
ln(GDP per capita)	0.609	0.562	0.533
	(0.137)***	(0.143)***	(0.151)**
Personalist			1.606
			(0.558)**
Leg. × personalist			−1.910
			(0.651)**
Intercept	−0.944	−1.034	−2.227
	(1.176)	(1.211)	(1.071)**
Regional dummies	Yes	Yes	Yes
N	75	51	51

Note: JMW = Jensen, Malesky and Weymouth; GWF = Geddes, Wright and Frantz. The dependent variable is *Risk of government expropriation* from a Belgian political risk insurance agency. A positive coefficient indicates a correlation with greater perceived property protections (or lower political risk). *Standard errors in parentheses.* *p < 0.1, **p < 0.05, ***p < 0.01

In this analysis, a positive coefficient indicates a correlation with greater perceived property protections (or lower political risk). The estimates in Column 1 show results identical to Column 1 of Table 1 in JMW: legislatures are not associated with greater perceived property protection. This result also holds when we restrict the sample to countries coded as autocracies in 2002 by Geddes, Wright and Frantz (hereafter GWF).[44] When we add a dummy variable for personalist regimes and interact it with *Legislature*, however, the results show that the marginal effect of legislatures is different in non-personalist autocracies. In these autocracies, *Legislature* is associated with lower levels of expropriation risk.

The finding in Column 3 is nevertheless fragile, as there is little variation in legislatures in non-personalist regimes *in 2002*.[45] Furthermore, the specification in Column 3 only estimates the *average* marginal effect in each group of autocracies. As a result, we estimate the model in Column 1 (that is, the full sample from JMW) using a kernel regularized least squares approach. Hainmueller and Hazlett explain that this method 'constructs a flexible hypothesis space that uses kernels as radial basis functions and finds the best-fitting surface in this space by minimizing a complexity-penalized least squares problem'. They further note that this approach 'avoids strong parametric assumptions, yet allows interpretation in ways analogous to generalized linear models while also permitting more complex interpretation to examine

[44] Geddes, Wright, and Frantz 2014. Countries not coded as autocratic regimes in January 2002 by GWF are: Bangladesh, Bosnia and Herzegovina, Central African Republic, Colombia, Ecuador, Guatemala, Guinea-Bissau, Indonesia, Lebanon, Madagascar, Malawi, Moldova, Niger, Nigeria, Paraguay, Sierra Leone, Sri Lanka, Turkey, Ukraine and Venezuela. Other excluded countries fall below the population threshold in GWF: Bahrain, Brunei, Maldives and Qatar.

[45] Appendix Table A3 shows that, in the raw data with no missingness on the expropriation risk variable, only two non-personalist dictatorships lack a legislature. In the estimating sample of fifty-one observations (Column 3, Table A2), there is only one non-personalist regime with no legislature. This means that identification of the main result stems from *very* few observations and should be interpreted with appropriate caution.
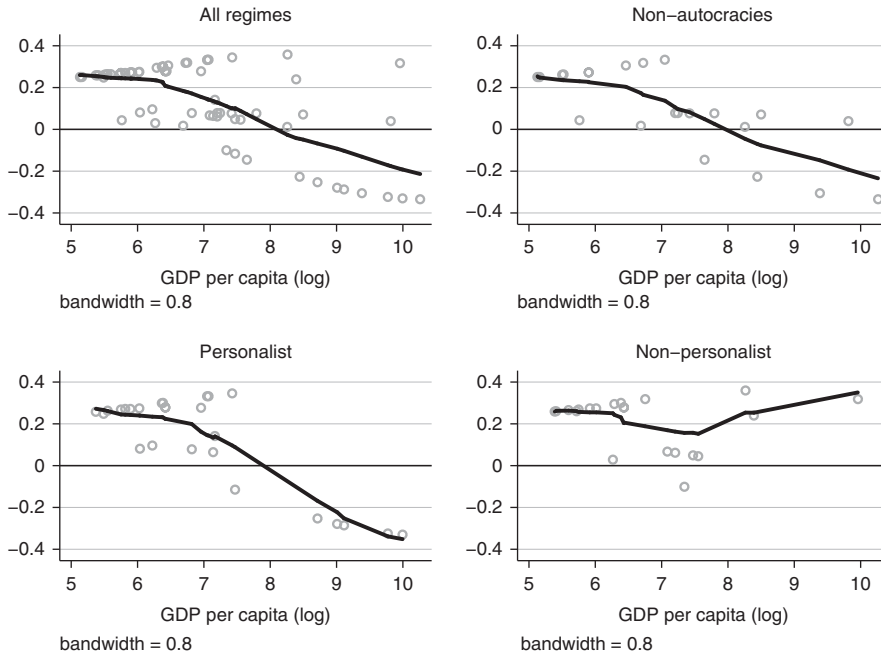
Fig. 1. Pointwise marginal effect of Legislature *on expropriation risk, by subsample*
Note: kernal regression estimates replicating the analysis in Jensen, Malesky and Weymouth (2014). Each point represents the marginal effect of *Legislature* for a single observation in the sample. The top panel shows that in the full sample, the marginal effect of *Legislature* varies by level of development (GDP per capita). The bottom three panels divide the sample into personalist autocracies, non-personalist autocracies and non-autocracy. The pointwise marginal effect of *Legislature* is almost always above zero in the non-personalist dictatorships (bottom, middle plot).

non-linearities and heterogeneous effects'.[46] This estimator allows us to explore how the marginal effect of legislatures varies in different groups of regimes, which is similar to estimating interaction terms.

The top panel of Figure 1 shows how the estimated marginal effect of *Legislature* (vertical axis) varies across levels of GDP per capita (horizontal axis). This plot is similar to estimating an interaction term between *Legislature* and *GDP Per Capita* to examine heterogeneous effects; in effect, we are 'exploring' whether the marginal effect of *Legislature* varies by *GDP Per Capita*. Each point represents a single observation in the sample, and the solid dark line is a Lowess curve derived from these points. In relatively low-income autocracies, the marginal effect of legislatures is generally positive (associated with lower expropriation risk), but these estimates are much smaller (and even negative) in high-income autocracies. The bottom panel shows the same plot divided between personalist and non-personalist regimes, as well as countries not coded as autocracies by GWF in 2002. The plots show that the marginal effect of *Legislature* differs considerably between personalist and non-personalist autocracies. In the non-personalist sample, for example, all but one of the observations lie above zero, indicating that the marginal effect of *Legislature* in this group is almost always positive, irrespective of

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[46] Hainmueller and Hazlett 2014, 143.

GDP per capita. Among wealthier personalist regimes, however, the marginal effect of *Legislature* is negative.

As a second way to address the concern that the verification sample has only one non-personalist regime that lacks a legislature in 2002, we examine new data on expropriation risk for the period 2002–08.[47] This strategy increases the number of non-personalist regimes in the sample without a legislature. The results from both approaches indicate a strong negative correlation between legislature and expropriation risk in non-personalist dictatorships; in personalist ones, the estimates for legislatures vary around zero and are never statistically significant. This evidence corroborates the findings from our verification of the JMW study that examines expropriation risk data for only one year: 2002.

EXPROPRIATION

To move beyond a 'blunt theoretical discussion of property rights and investment risk', we use expropriation data in 138 countries between 1960 and 2006 to examine the influence of autocratic legislatures on nationalizations.[48] This approach differs from prior studies that either look at alternative economic outcomes such as growth and investment or the perceived risk of expropriation.[49]

Instead, we use data on oil expropriation to explore whether *observed* property rights protections are upheld by authoritarian assemblies and whether this differs by authoritarian regime. Examining oil expropriation allows us to more precisely identify the countries in which expropriation in a particular sector is most likely to occur, because we have excellent data on oil production across a range of autocracies. We should not expect legislatures – or any other measure of political constraint – to make much difference for oil sector expropriation in countries such as Mali, Uganda or Senegal, where oil production is limited. The data are not as precise for other sectors, however, which limits our ability to assess the extent to which autocratic economies exploit them.

Further, because governments cannot choose whether their countries have oil reserves, investment in the oil sector is less likely to solely be a function of whether the incumbent government creates a friendly investment environment. Thus unlike investment in other sectors, such as manufacturing and services, the geological distribution of oil reserves can explain why we observe oil investment in markets that are potentially prone to expropriation in the first place. That is, oil investment can be explained, in part, by factors unrelated to governments' political decisions. For example, historically, oil investment flowed to Iraq and not Jordan – two countries whose first rulers at 'independence', Faisal and Abdullah, came from the same Hashemite family and were imposed by the British at the end of the First World War – because oil reserves were found in the former but not the latter.[50]

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[47] The ONDD only creates separate estimates for government expropriation risk and war risk beginning in 2002; the final year in the sample (2008) is demarcated by the available data on legislatures. In the Appendix, we report results from models that pool all years together (2002–08) and estimate separate models for each additional year in the dataset (akin to the research design in JMW). Similar to the original JMW specification, we control for GDP per capita, include geographic region fixed effects and use a linear link function. The pooled models employ standard errors clustered by country. Results remain in models that: control for oil rents, employ alternate variables for GDP per capita from the Penn World Tables and the World Bank, include year fixed effects and use an ordered probit link function.

[48] Jensen, Malesky, and Weymouth 2014, 5.

[49] Gandhi 2008; Gehlbach and Keefer 2012; Jensen 2008; Jensen, Malesky, and Weymouth 2014; Wright 2008.

[50] According to Ross (2013), oil production in Jordan averaged just over 2,000 barrels per year from 1960 to 2011, while production in Iraq averaged almost 85 million barrels per year from 1960 to 2011. Abdullah I was

A drawback of using oil expropriation data is that there are relatively few instances of observed expropriation in recent decades. In fact, from 1996 to 2002 – the period under consideration in the JMW study – there are no instances of oil sector expropriation in autocracies, according to the GKS data. Investors surveyed about their perceptions of expropriation risk during this period may not have been thinking about these types of expropriations simply because there were none. There were, however, a number of high-profile expropriations that occurred after the period of study in JMW – for example, in Russia and Venezuela in 2006. While the number of expropriations decreased substantially after 1980 – perhaps the result of the rising Washington consensus and the attendant era of neo-liberal economic policy making[51] – seven such incidents have occurred in the last decade.[52] On its face, two factors may explain the recent increase in oil expropriations: the sharp rise in world oil prices starting in the late 1990s and the end of the Washington consensus.[53]

To mitigate concerns about the dearth of observed oil expropriations in the past couple of decades, we complement our analysis with a model that includes expropriation data in all sectors – including agriculture, manufacturing and mining. Expanding the analysis to all sectors increases the number of observed expropriations from six to nearly fifty in the 1990–2006 period. All the same, analyzing expropriations in all sectors cannot isolate those autocracies with economies that are reliant on a particular sector and which therefore have the strongest incentive to expropriate assets in that particular sector. For this reason, we view all expropriations in conjunction with oil expropriation specifically.

AUTOCRATIC LEGISLATURES AND OIL EXPROPRIATION

Our approach builds on the analysis by GKS of oil sector nationalization: the forced divestment of foreign-owned oil companies.[54] They use a sample of democracies and autocracies between 1960 and 2006 to examine whether executive constraint and oil prices influence expropriation. Consistent with theoretical expectations, they find that higher levels of executive constraint are associated with less expropriation, and that expropriations occur when oil prices are high.

Over the same period, we restrict our analysis to autocracies defined by GWF. The sample therefore excludes democracies, provisional regimes, and states governed by warlord groups or failed states (for example, Afghanistan between Najibullah's regime and Taliban rule, and Somalia after the fall of Siad Barre). The dependent variable is a binary indicator of oil nationalization in a particular country-year. The control variables include GDP per capita, population size, regime duration and oil rents per capita – all logged and lagged by one year.

Like GKS, we test whether executive constraint (the *XCONST* variable from Polity) is associated with expropriation risk. This variable is a seven-point scale in which higher values indicate more executive constraint.[55] To examine the influence of legislatures (*Legislature*), we

proclaimed king in Jordan in April 1921 (Haddad [1965] 1971, 477). Faisal I was pro-claimed king in Iraq in August 1921 (Haddad [1965] 1971, 57), prior to the granting of the first concession for oil exploration in 1925 (Alnasrawi 1994, 2). Thus, assignment of British-backed monarchs to Iraq and Jordan in the 1920s chronologically preceded oil investment.

[51] Williamson 1990.

[52] Expropriations since 2000 include China (2003), the Russian Federation (2003 and 2006), Azerbaijan (2005), Yemen (2005) and Venezuela (2006).

[53] Guriev, Kolotilin, and Sonin 2011; Rodrik 2006.

[54] Guriev, Kolotilin, and Sonin 2011.
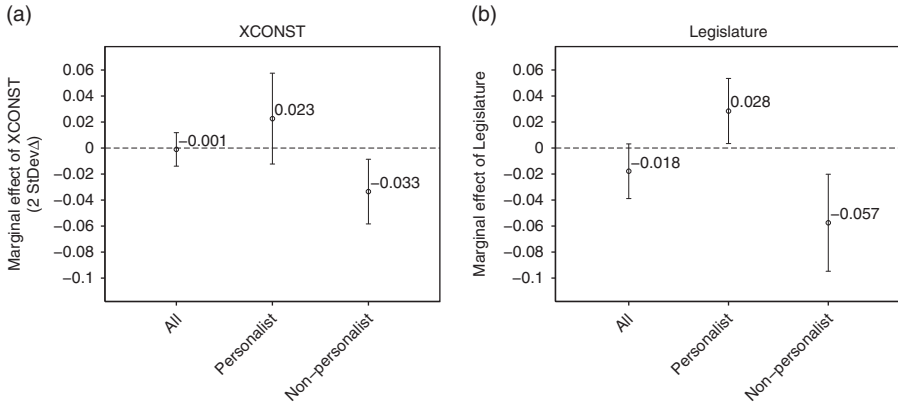
[55] Marshall and Jaggers 2002.

Fig. 2. Political constraints and oil expropriation in autocracies
Note: the left panel depicts the marginal effect of a two-standard-deviation increase in *XCONST*, from the full sample and subsample tests. The right panel depicts the marginal effect of a one-unit change in *Legislature* from 0 to 1, from the full sample and subsample tests. Years: 1960–2006.

use a variable from Cheibub, Gandhi and Vreeland indicating whether an elected legislature existed on 31 December of the calendar year prior to the observation year.[56] We view both of these variables as plausible proxies for executive constraint. Indeed, the mean level of political constraint differs by *Legislature* for the full sample of autocracies, in a sample of personalist regimes and in non-personalist autocracies.[57]

We estimate a linear probability model using country (ξ_i) and year (τ_t) fixed effects.[58] Because world oil price only varies by calendar year, the year-fixed effects absorb this information. We first examine a sample that includes all autocracies, and then we test the same model on two subsamples that differentiate between personalist and non-personalist regimes.[59] The model estimates the following equation with a linear link function:

$$Y_{i,t} = \alpha_0 + \beta X_{i,t-1} + \gamma Legislature_{i,t-1} + \xi_i + \tau_t + \varepsilon_{i,t}. \qquad (1)$$

The left panel of Figure 2 shows the main result for *XCONST*.[60] In the full sample of autocracies, executive constraint has a small *average* effect, and the estimate is not statistically different from zero. In the subsample analysis, however, executive constraint is associated with a lower expropriation risk in non-personalist regimes but a higher risk in personalist regimes. The right panel repeats the analysis but employs the legislature variable in lieu of executive constraints. The average effect in the sample of all autocracies, while negative, is not distinguishable from zero. Again, however, this average estimate varies across the subsamples; it is negative and different from zero in non-personalist autocracies, and positive and different

[56] Cheibub, Gandhi, and Vreeland 2010. In the main sample, 74 per cent of non-personalist regime observations and 62 per cent of personalist regime observations have a legislature.

[57] See Appendix. The sample of personalist regimes includes monarchies, because neither personalist regimes nor monarchies have incentives to establish binding legislatures. In addition, monarchies are similar to personalist regimes, insofar as they are based on a narrow group centered around an individual dictator.

[58] Guriev, Kolotilin, and Sonin 2011.

[59] Because we employ a within estimator, we note the share of countries with variation over time in the legislature variable in each subsample: 61 per cent of countries in the personalist sample have at least one change in the legislature variable, while 51 per cent of countries in the non-personalist sample do.

[60] All results reported in tables in the Appendix.

from zero in personalist regimes.[61] Thus, according to both measures of political constraint – *XCONST* and *Legislature* – a consistent pattern emerges. Institutional variables are associated with a lower risk of expropriation in non-personalist dictatorships, but a higher risk of expropriation in personalist regimes. This suggests that standard cross-national measures of political constraint may not provide good measures of this concept in personalist autocracies.

Kernal Regression Estimates

The subsample analysis in Figure 2 estimates the *average marginal effect* of legislatures within each group of autocracies. This is similar to estimating a model with an interaction term, except that in addition to estimating the heterogeneous effect of legislatures, the subsample approach allows the estimates of the covariates to vary by group of regimes. Nevertheless, even this approach may not identify the best model specification, given the data. The results in Figure 2 rely on a linear model to avoid separation issues that arise when non-linear estimators drop countries (and years) in which no expropriation is observed. However, a linear model can easily produce heteroskedastic errors with a binary dependent variable, and often yields non-sensical (unbounded) predicted values. One approach that addresses both concerns is a kernel regularized least squares estimator,[62] which estimates the pointwise marginal effect of covariates for each observation in the sample.

We estimate the specification in Equation 1 but exclude country and year dummies to obtain convergence, replacing the latter with a flexible quadratic time trend. To model unit fixed effects using kernel regression, we add the unit means of the explanatory variables to the right-hand side of the equation. This approach, which is similar to the correlated random effects estimator discussed in the Appendix, accounts for unobserved, time-invariant country-specific factors by 'controlling for' unit means.[63] Thus instead of including a dummy variable for each country, we add the in-sample country mean for each explanatory variable.

Using a kernel regularized least squares estimator for the full sample of all autocracies allows us to examine whether there is heterogeneity in the marginal effects of the main variable of interest, *Legislature*. We do this in two ways. First, we examine the difference in the mean values of the pointwise derivatives for *Legislature*, by personalism. We find that the average marginal effect is roughly zero in personalist regimes but −0.029 in non-personalist regimes.[64] Second, we do this for oil rents and find that the marginal effects for *Legislature* vary considerably by the level of oil rents. This should not be surprising, as we would not expect legislatures to influence the risk of oil sector expropriation in countries with little oil income. The marginal effect of legislatures thus varies by both regime type and the size of oil rents.

Figure 3 plots the pointwise marginal effects against logged oil rents, by subsample. Each circle represents an individual observation. The solid horizontal line marks zero, while the dashed line indicates the *average* marginal effect in each subsample. In personalist autocracies, the average marginal effect of *Legislature* is roughly zero, while in non-personalist regimes the

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[61] The raw data on expropriations by legislature for personalist and non-personalist dictatorships is shown in Appendix Table A5. While the raw expropriation rate for regimes that lack a legislature is similar for personalist and non-personalist dictatorships (4–5 per cent), the raw expropriation rate for observations with a legislature is roughly three times as large in personalist dictatorships (1.7 per cent vs. 0.6 per cent). This indicates that, historically, the difference between personalist and non-personalist regimes lies in their distinct expropriation rates when they have a legislature and not when they lack a legislature.

[62] Hainmueller and Hazlett 2014.

[63] Wooldridge 2002, 483.

[64] These estimates differ from the those in the subsample analysis in Figure 2 because the pooled sample does not estimate interaction terms between the personalist variable and the other explanatory variables.
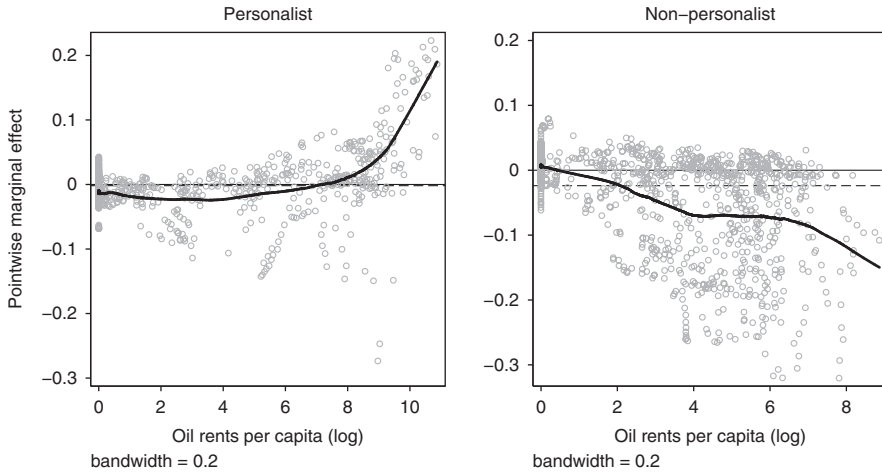
Fig. 3. Pointwise marginal effect of Legislature *on oil expropriation, by subsample*
Note: kernal regression estimates from a model with unit means of all explanatory variables to proxy for fixed effects. Years: 1960–2006.

average effect is −0.029. Consistent with the results in Figure 2, legislatures in non-personalist regimes are associated (on average) with a lower expropriation risk. The thick dark solid line in each plot is a local area estimate of the relationship between oil rents and the marginal effect of *Legislature*. In countries with no oil rents, the pointwise marginal effects are roughly zero in each subsample. As oil rents increase, however, the local area estimate increases in personalist regimes but decreases in other dictatorships. This suggests that not only does the average marginal effect of legislature differ by regime type, but that these differences get stronger as oil rents increase.

Robustness Tests

Table 2 shows the estimates associated with *Legislature*, by subsample, from robustness tests. In all changes to the estimator or specification, the main pattern persists: legislatures are associated with a lower risk of expropriation in non-personalist regimes. While many robustness tests indicate that legislatures are positively correlated with observed expropriation in personalist autocracies, we do not interpret this as evidence that legislatures increase the risk of expropriation in these dictatorships. Rather, we stress that the findings indicate that the effect of legislatures in personalist contexts is different from that in non-personalist dictatorships. The Appendix discusses two robustness tests in detail: correlated random effects and 2SLS-IV. In the latter, we use *Inherited Legislature* for a particular leader as an excluded instrument to model exogenous variation in *Legislature*, an approach similar to JMW.[65]

EXPROPRIATIONS FROM ALL SECTORS

To examine all expropriation acts, we obtained data from Hajzler, who collected information on expropriation acts from Kobrin and Minor and updated the dataset through 2006, creating a list

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[65] See the Appendix for a discussion of the interpretation of these results.

TABLE 2   *Robustness Tests*

Coefficient estimates for *Legislature*	Personalist	Non-Personalist
Estimates in Figure 2	0.028 (0.010)	−0.057 (0.010)
Estimates in Figure 2	**−0.002** (0.001)	−0.029 (0.001)
Legislature (multiple parties) vs. no institutions	**0.015** (0.014)	−0.053 (0.019)
Legislature (single party) vs. no institutions	**0.023** (0.016)	−0.060 (0.020)
Non-robust errors	0.028 (0.014)	−0.057 (0.012)
Cluster errors on country	0.028 (0.017)	−0.057 (0.033)
Cluster errors on year	0.028 (0.014)	−0.057 (0.019)
No control variables	0.019 (0.011)	−0.021 (0.009)
Oil price	0.024 (0.013)	−0.061 (0.019)
Oil price + oil shock years	0.023 (0.013)	−0.059 (0.019)
Linear time-trend	**0.008** (0.010)	−0.025 (0.009)
Quadratic time-trend	**0.009** (0.011)	−0.024 (0.009)
Country-specific linear time-trend	**0.013** (0.014)	−0.061 (0.020)
Country-specific quadratic time-trend	**0.001** (0.014)	−0.047 (0.020)
Regime duration fixed effects	0.026 (0.015)	−0.056 (0.020)
Regime fixed effects	0.030 (0.015)	−0.065 (0.024)
Conditional logit	**0.444** (0.700)	−2.620 (1.080)
Random effects	**0.013** (0.009)	−0.048 (0.009)
Exclude monarchies	0.032 (0.014)	−0.057 (0.019)
Pure regime types only	0.028 (0.013)	−0.058 (0.031)
Pre-Big oil change (1960–1979)	**0.003** (0.026)	−0.087 (0.027)
Big oil change (1980–2006)	0.048 (0.016)	−0.024 (0.013)
Cold war (1960–1989)	0.029 (0.016)	−0.063 (0.020)
Post-Cold war (1990–2006)	0.028 (0.016)	−0.030 (0.017)
Correlated random effects	**0.017** (0.013)	−0.064 (0.032)
2SLS-IV	**0.043** (0.046)	−0.274 (0.109)

Note: bold estimates are **not** statistically significant at the 0.10 level or less. Standard errors in parentheses. Linear probability model, unless otherwise noted. All specifications include country, year fixed effects, oil rents per capita (log), GDP per capita (log), population (log) and regime duration, unless otherwise noted. No control variables ≡ no added variables except country and year effects. Oil price varies by year, so these specifications exclude year effects. Oil shock years are a binary indicator for the years 1973, 1980 and 1998. Regime fixed effects substitute regime-specific dummies for country dummies. (A non-democratic spell can have multiple regimes, for example Iran has two regimes in the sample period: pre-1980 and post-1979.) Pure regime types specification drops all hybrid regimes from the sample. See the Appendix for details of correlated random effects, 2SLS-IV and all expropriations tests.

of nationalizations from 1960 to 2006.[66] This data includes expropriation acts in the petroleum sector as well as other economic sectors such as agriculture, manufacturing, mining and utilities. In the main sample of autocratic regimes, both personalist and non-personalist (N = 2,886), the number of expropriation observations rises from sixty-one in the petroleum sector to 207 in all sectors. As before, we report estimates from a specification with country and year fixed effects as well as controls for oil rents per capita, GDP per capita, population size and regime duration. The first row of Table 3 reports this result. The next estimate drops the oil rents variable to increase the sample size. The third estimate drops all control variables, save regime duration, to maximize the sample size. A consistent pattern remains: the estimates for *Legislature* are

[66] Hajzler 2012; Kobrin 1980; Kobrin 1984; Minor 1994.

TABLE 3   *All Expropriations*

| Coefficient estimates for *Legislature*	Personalist	Non-Personalist
All expropriations (control variables)	0.017 (0.013)	−0.064 (0.032)
All expropriations (exclude oil rent control)	−0.010 (0.024)	−0.099 (0.026)
All expropriations (exclude control variables)	−0.027 (0.021)	−0.060 (0.023)
Oil expropriations (Hajzler data, linear)	0.014 (0.016)	−0.051 (0.018)
Oil expropriations (Hajzler data, non-linear)	−0.367 (0.617)	−1.961 (0.722)
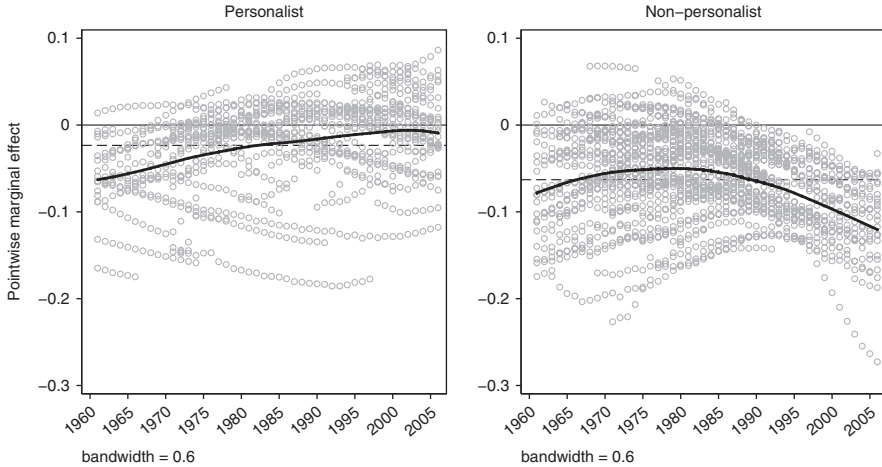
Fig. 4. Pointwise marginal effect of Legislature, *by subsample*
Note: kernal regression estimates from a model of all expropriations, with unit means of all explanatory variables to proxy for fixed effects. Years: 1960–2006.

negative and different from zero in non-personalist autocracies, while the estimates in personalist dictatorships are small and never different from zero. Finally, because the Hajzler data contains a slightly different list of oil sector expropriations than the list used by GKS, we estimate the main oil expropriation model with both linear and non-linear link functions using oil expropriation data from Hajzler.[67] These estimates are reported in the final row and are consistent with results reported throughout.

Finally, we estimated a kernal regression and constructed a plot of the marginal effect of *Legislature*, by personalism and over time. Figure 4 shows that the average marginal effect is over twice as large in non-personalist regimes. Further, there is a strong non-linear time trend in the marginal effect. Over time, the (absolute) marginal effect of legislatures is diminishing in personalist regimes but growing in non-personalist ones. For example, in the post-1989 period, these estimates indicate that non-personalist legislatures are associated with a 10 per cent reduction in the likelihood of asset expropriation, while personalist legislatures have almost no empirical relationship with this outcome. Robustness tests confirming this result using a 2SLS estimator are reported in the Appendix.

[67] Guriev, Kolotilin, and Sonin 2011.

CONCLUSION

Using data on nationalizations in the oil sector between 1960 and 2006, we find that legislatures are correlated with a lower expropriation risk in non-personalist dictatorships but not in personalist regimes. Furthermore, we show that the influence of legislatures on investors' perceived risk of expropriation is also positive in non-personalist dictatorships. The findings utilize different types of data (observed expropriations and investor risk ratings) and exploit different types of variation (over time within countries and across countries) to show a consistent pattern between authoritarian institutions and property protections. We do not believe these findings bring us closer to finding a *causal* understanding of how autocratic political institutions operate, however, because they rely on a comparison of outcomes when an institution is present and when it is not. Instead, our study highlights the importance of political context in demonstrating the function of autocratic political institutions.

New work that exploits detailed knowledge of the inner workings of specific autocratic institutions shows much promise for understanding the mechanisms through which they influence outcomes such as constraint on the leader, responsiveness, the distribution of government resources and perhaps even regime longevity.[68] These approaches rely on within-institution data to draw inferences about how they work in practice, and will no doubt improve as research designs move beyond single-country studies to conduct paired comparisons of within-institution outcomes across different autocratic contexts.

The discourse on authoritarian institutions will benefit from a more nuanced consideration of the mechanisms that produce institutions such as political parties and legislatures, and the roles they play in sustaining different regimes. This requires explaining the circumstances that influence the timing and order of their emergence, the independent effects of particular institutions, and the purpose that autocratic institutions serve for different dictators and the regimes they oversee. To that end, the findings in this article support the expectation that executive constraints – in this case proxied with the presence of a legislature – lower the risk of expropriation. An imperative for ongoing research on authoritarian institutions, however, is to discern the circumstances under which such institutions serve this purpose.

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[68] Blaydes 2010; Malesky, Abrami, and Zheng 2011; Malesky and Schuler 2010; Truex 2014.

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