

## Introduction

Each year since 1979, the World Economic Forum (WEF) has conducted the Executive Opinion Survey (EOS), producing a widely utilized database that in 2016 included responses from approximately 14,000 business executives in 141 countries. The survey forms the basis of WEF's annual Global Competitiveness Index and corresponding Report, which aims to measure the drivers of economic development by "capturing the opinions of business leaders around the world on a broad range of topics for which statistics are unreliable, outdated, or nonexistent for many countries" (Schwab and Sala-i-Martin 2016, p. 77). Many of these topics relate to issues of governance that are of interest to scholars and policymakers. EOS data are thus especially attractive for their temporal and geographical coverage, yet the amalgamation of executive survey responses from such disparate countries also is a source of concern.

There is a well-established link between authoritarianism and corporate clientelism across a diverse set of regions (Geddes 1995; McFaul 1995; van de Walle 2006; Ong 2012; Kamrava, Nonneman, Nosova, and Valeri 2016). The embeddedness of business and political elites in authoritarian settings suggests that, despite having first-hand information about governance quality, executives face personal and organizational incentives to report more positive perceptions, introducing measurement error tied to regime type. Corporate elites operating in autocracies may feel little expectation of anonymity in their survey responses, begetting concern over the possible political consequences of negative responses. Moreover, executives face a separate set of economic disincentives to express negative views, in that they can reasonably expect survey results to impact investor behavior in a way that is likely to benefit, or harm, themselves and their firm. This consideration is amplified in authoritarian settings, where reliable political and economic indicators are less readily available, magnifying the business impact of third-party data

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from sources such as the EOS. Executive insiders may possess higher quality information than other sources, but if they are unwilling to report it accurately for fear of economic and/or political repercussions, then their privileged position is of little use. Until now, in the sizable literature on potential sources of bias in elite surveys, these pressures have been ignored.

The theory and findings presented in this study are of conceptual and substantive importance. WEF Executive Opinion Survey data are widely used by governments and scholars to compare and measure competitiveness and governance. For scholars in political science and policy studies, EOS data are commonly used to measure concepts ranging from corruption (e.g. Knack 2007; Uslaner 2008; Wu 2005), to human capital development (Bowen and De Clercq 2008; D'Arcy and Nistotskaya 2017), to overall government performance (Relly and Sabharwal 2009; van de Walle 2006), and even crime and policing (Pinotti 2015; Sung 2004, 2006). They also form part of larger data aggregations such as the World Bank's Worldwide Governance Indicators (WGI) compiled by Kaufmann and colleagues (2004, 2007a, 2009, 2010) and Transparency International's Corruption Perception Index (CPI), each of which is used widely in political science. Policy practitioners follow the annual rankings of the Global Competitive Index, derived from EOS data, which make headlines worldwide. Finally, developing and authoritarian states often rely on their EOS performance to demonstrate improvement in and commitment to governance.

This study investigates the link between regime type and government performance as measured in the EOS. It hypothesizes that the reported perceptions of elite survey informants are influenced by the political-economic environment in which they operate, and that the relative proximity of business and political interests in more autocratic settings gives rise to substantively-

misleading bias in the EOS, with consequences for other measures of governance that rely on it. As such, our interest is not in the theoretical relationship between democracy and governance, but in the question of how regime type impacts the *measurement* of the very performance indicators often used for hypothesis testing. If governance data are biased in a manner correlated with regime type itself, then the resulting causal inferences may be immaterial.

To understand the impact of regime type on governance measurement, this study examines a diverse set of EOS indicators conceptually related to governance: freedom of the press, judicial independence, business cost of crime and violence, irregular bribes and payments, and protection of property rights. Each indicator is analyzed in conjunction with several corollary measures derived from expert ratings, composite indices, or fact-based/event data, which are better insulated from the distortive political and economic pressures hypothesized to exist among business executives. The results show that in democracies, relationships between EOS and corresponding measures are significant and intuitive. By contrast, scores in autocracies are often inflated, and in a few cases the relationship is insignificant. Anocracies sometimes exhibit similar, though less severe, inflation compared to autocracies. The practical impact of this bias is demonstrated by reevaluating Transparency International's Corruption Perceptions Index. When EOS data are excluded from the CPI composite measure, autocracies experience a drop in rank and score, while democracies do not. Finally, individual-level EOS data from an exemplar autocracy--the Arab Gulf state of Qatar--afford evidence of the proposed mechanism of inflation. Results show that regime-embedded executives report survey evaluations that are significantly more positive. Notably, the observed inflation based on headquarters location is not limited to the five EOS indicators considered in the country-level analysis, but affects 83 percent of governance-related

indicators.

## Literature Review

### Regime Type and Quality of Governance

Scholars have devoted considerable effort to examining the relationship between regime type and quality of governance. Despite a widespread normative preference for democracy, researchers have disagreed about the extent to which democracy improves the lives of citizens in tangible ways relative to other systems of governance (Gerring, Bond, Barndt, and Moreno, 2005; Doucouliagos and Ulubaşođlu 2008). A number of positive outcomes have been studied in connection with regime type, including economic growth and development (Acemoglu, Johnson, and Robinson 2001; Knack and Keefer 1997), control of corruption (Rose-Ackerman 1999; Montinola and Jackman 2002), and peace and stability (Mansfield and Snyder 2005; Karstedt and LaFree 2006).

With regard to economic development, early studies argued that authoritarian regimes have an advantage in creating state-led economic growth because they are able to implement austere reforms that would be unpopular with either labor or capital interests (O'Donnell 1977; Haggard and Kaufman 1995). However, this view was not supported by case studies as well as cross-national research (Gerring et al 2005). Furthermore, Geddes (1995) concludes that authoritarian regimes do not have an advantage in implementing tough reforms, because business elites are often closely tied to the ruling coalition. In cases such as Brazil and Argentina, bureaucratic authoritarian elites controlled many aspects of the economy and blocked reforms that would decrease the role of the state (Geddes 1995). Indeed, the close connection between

state and business interests has been noted worldwide in many different types of authoritarian regimes, including in East Asia (Pei 1995), China (Ong 2012), the former Soviet states (McFaul 1995), and the Middle East (Haddad 2011; Kamrava et al. 2016; Kamrava 2017). Unsurprisingly, cross-national analysis of developing world countries conducted by Biglaiser and Danis (2002) finds that authoritarian regimes privatize less often than democracies.

Another body of research takes a more nuanced view of regime type, attempting to identify the specific institutions that are associated with positive outcomes. For instance, North (1990) argues that the protection of property rights under democracy fosters a longer-term perspective for investors. The cross-national relationship between property rights protection and economic development has been verified by a number of empirical studies (Knack and Keefer 1995; Easterly and Levine 2003). Similarly, research has highlighted the importance of checks and balances within the regime, including the ability of the legislative and judicial branches to check executive power (Acemoglu, Johnson and Robinson 2001). While not an institution per se, Brunetti and Weder (2003) argue that freedom of the press is important for exposing corruption and deterring the misuse of office.

### **Challenges in Measuring Quality of Governance**

Governance is difficult to conceptualize and measure. Many definitions are either overly broad or narrowly focused on specific concepts such as corruption or determinants of economic growth (Rothstein and Teorell 2008). The list of what “good” governments should be doing can seem impossibly long (Grindle 2004; Norris 2012). Though criticized as an overly broad definition (see Kurtz and Schrank 2007), the World Bank defines governance as “the traditions and

institutions by which authority in a country is exercised” (Kaufmann, Kraay, and Mastruzzi 2010, p. 4). Meanwhile, Rothstein and Teorell (2008) argue that good governance requires impartiality in how laws are implemented. This is impaired in autocracies, where state access is limited to a particular group. The concept of impartiality subsumes rival conceptualizations such as corruption, economic efficiency, and rule of law, which have been widely discussed and measured (Rose-Ackerman 1999; Treisman 2007, Holmberg, Rothstein, and Nasiritousi 2009).

Rather than offering yet another definition of this complex concept, this paper points to a common problem: that those who have the best information about quality of governance are sometimes the least likely to reveal what they know. These concerns apply across a broad range of governance concepts and operationalizations. The real-world narrative behind the study of quality of governance demonstrates why this is the case. After failed policy reforms in Latin America, international aid agencies began linking the provision of aid dollars to local policy changes (Hopkin 2002; Seligson 2002). Increasing levels of global investment in less developed markets required investors to measure risk and led countries to compete for investment (Arndt and Oman 2006). Developing states were therefore incentivized to perform well on a number of new measures of governance and political risk, without respect to any particular concept developed by scholars. Autocracies in particular needed credible metrics of stability and governance to help lure investment, and cross-national surveys of embedded elites such as the EOS proved an effective means to that end.

### **Elite Surveys and Bias**

Although a number of business surveys exist<sup>1</sup>, the Executive Opinion Survey is the most

widely used, especially via its inclusion in other prominent composite indices, including the World Bank's WGI and Transparency International's CPI. The EOS interviews business executives from small, medium-sized, and large companies, and is administered through partner institutions in academia, business, or market research. The partners implement specific probability sampling guidelines provided by WEF to ensure that the sample of respondents is representative of the country's economic structure, in terms of both sectoral composition (contribution to GDP of agriculture, manufacturing industry, non-manufacturing industry and services industries) and company size (micro, SME and large companies)<sup>2</sup>. The survey aims to ensure that around half of respondents are participants from the previous year.

The use of executive surveys has been widely debated. Measures based on the perceptions of individuals within a country are attractive because they arguably express the first-hand experiences and local knowledge of residents, and are thought to be more accurate than the second-hand assessments of experts. The official law of the land may be significantly different from what residents experience and view as the *de facto* way of doing business (Kaufmann, Kray, and Mastruzzi 2010). While executive opinion surveys are advantageous for these reasons, they also have been subject to critique. First, since firm surveys sample business executives rather than ordinary citizens, it can be argued that they represent elite views that differ widely from everyday experiences in a country (Kurtz and Schrank 2007). In defense of elite opinion surveys, Kaufmann and colleagues (2007b) argue that firms and society more broadly have strongly correlated views as to what constitutes good governance. Even so, the correlations are not so high as to preclude the possibility of bias affecting elite surveys, whether as a function of autocracy or some other source.

Corollaries to this critique can be found in the study of corruption. Lancaster and Montinola (2001) argue that firm surveys represent perceptions of corruption in national capitals and in large metropolitan areas, whereas experiences elsewhere in a country may differ significantly. In East and Southeast Asia, notable gaps have been found between citizen perceptions and expert perceptions of corruption (Lin and Yu 2014). On the other hand, Charron (2016) concludes that expert-based perception measures and citizen reports of experience with corruption are strongly related in Europe (Charron 2016).

Relatedly, executives who complete firm surveys may conceptualize good governance differently than either experts or individual citizens. Since they represent business interests, they may, for example, prioritize minimal red tape and low taxes over other aspects of good governance (van de Walle 2006). Consequently, countries with strong economies may elicit more positive reviews about governance due to so called “halo-effects” produced by elite respondent biases. The defenders of the World Bank WGI dataset argue that there is no evidence of this occurring (Kaufmann, Kraay, and Mastruzzi 2004, 2007a), yet this point is contested (Kurtz and Schrank 2007).

### **Regime Characteristics and Survey Bias**

Most critiques of firm surveys have thus focused on the bias that might stem from the unique economic perspectives of executive respondents. Less attention has been paid to the way that regime characteristics might induce measurement error in surveys of business elites, as has been observed in other types of surveys. Kaufmann and colleagues (2004), for instance, hypothesize but find no evidence that the political or ideological orientation of international rating agencies

impacts the assessments they provide for left- or right-wing governments. By contrast, Steiner (2016) shows that Freedom House tends to assess U.S. allies as more democratic than non-allies, implying rater subjectivity even within widely-respected international NGOs. In an analysis of 36 African countries, Tannenber (2017) demonstrates that survey-takers in autocratic countries systematically report more positive views of citizen-state relations when they believe that a survey was commissioned by the government rather than by an independent organization. The importance of studying and correcting for respondent biases in governance metrics is also increasingly recognized among survey practitioners themselves, with large-scale data collection efforts like the Varieties of Democracy (V-Dem) and Quality of Governance (QoG) projects employing sophisticated statistical approaches to detect and control for scoring heterogeneity among individual enumerators (Lindberg, Coppedge, Gerring, Teorell, et al. 2014).

### **Why Executives Inflate**

We theorize that regime type may impact the evaluations of EOS respondents through separate but reinforcing political and economic mechanisms. First, like other survey respondents in authoritarian regimes, business executives appreciate that authorities monitor the activities of citizens and residents and seek to punish those who challenge sanctioned opinions. The relatively easy identification of executive respondents compared to ordinary citizens<sup>3</sup> means that EOS participants may fear that their answers are not confidential or even that the survey is state commissioned. These factors give rise to self-censorship—or “preference falsification” (Kuran 1997)—in the form of survey responses that are more favorable to the regime. Moreover, autocracies by nature depend on a small number of elites in whom political and economic

resources are disproportionately concentrated (Bueno de Mesquita, Smith, Siverson, Morrow 2005). This implies a selection effect whereby business executives in autocratic countries are more positively oriented toward the regime, all else equal, than those in more democratic systems. Indeed, the very survivability of executives in their privileged positions within autocracies may depend upon their demonstrated friendliness toward state interests (cf. Jamal 2007).

A second set of pressures acting on EOS respondents in authoritarian countries stems from economic incentives. The overarching concern of business executives is the profitability of their firm. If they believe that EOS results impact investor behavior vis-à-vis their country, respondents have an economic interest in reporting more positive views. In closed political environments, the expected influence of EOS results is greater because far fewer alternative credible indicators are likely to exist. In open regimes the EOS constitutes one of numerous official and unofficial data sources measuring political and economic performance. The international, independent character of EOS results render them more valuable to authoritarian countries, whose locally-produced data are often treated with skepticism by international scholars and policymakers. Some sense of this can be gleaned from the conspicuous celebration of EOS-based rankings by media in autocratic countries (e.g., Al Arabiya 2016; Vietnam Briefing 2014).

Finally, these political and economic mechanisms also imply that, even *within* individual autocracies, there should be variation in score inflation depending on the relative regime embeddedness of an EOS respondent at the individual or firm level. Companies owned partly or wholly by the government, for example, may be expected to criticize the state less. In countries with large foreign worker populations, citizen respondents might feel greater pressure to offer

more positive views of the country. Similarly, respondents from companies headquartered locally have more to lose both politically and economically from poor EOS evaluations. Executives at domestic companies report to local corporate boards, investors, and regulators, while those at companies headquartered outside the country are ultimately accountable to external authorities. Being more dependent on the domestic market, executives at companies headquartered locally also have greater exposure to the potential negative business consequences of poor EOS ranking.

### Data and Methods

We investigate score inflation in the WEF Executive Opinion Survey by examining the link between EOS scores and corollary quality of governance indicators conditional on regime type. To attain a broad understanding of how scores differ across regime type, each EOS indicator is examined in conjunction with multiple corollaries. The Quality of Governance (QoG) Standard Time-Series dataset is used. It consists of comparative data on quality of governance compiled from several publicly available sources, and includes EOS indicators and relevant corollary indicators. Three such indicators were merged into the QoG dataset (*EOS Freedom of the Press*, *CPIA Property Rights and Rule-based Governance Rating*, *ICRG Property Rights Index*). It is common to create a composite property rights index using ICRG data to measure security of property rights and risk of expropriation (e.g. Knack and Keefer 1995). Our composite property rights index was created by adding the 'Law and Order' and 'Investment Profile' variables of the 'Political Risk Index'.<sup>4</sup>

This study focuses on a set of five diverse indicators: freedom of the press, corruption, judicial independence, business cost of crime and violence, and property rights protection. These

indicators are core measures of the WEF's Institutions Pillar, which comprises one dimension of the GCI. They were selected because they are commonly associated with either institutional democracy or good governance, especially as conceptualized and measured by the WGI project (Kaufmann, Kraay, and Mastruzzi 2010). According to Norris (2012), qualities such as judicial independence and freedom of the press are seen as intrinsically related to liberal democracy, while other qualities such as low crime and violence, low corruption, and protection of property rights (i.e., rule of law) belong to the realm of good or bureaucratic governance. Thus classical components of democracy are tested alongside elements of good governance, making it very unlikely that autocracies would achieve higher objective ratings than democracies.

EOS questions ask executives to evaluate characteristics of their operating environment on a scale ranging from 1 to 7. The following five survey questions represent the key governance indicators of interest.

- *Business Cost of Crime and Violence.* “To what extent does the incidence of crime and violence impose costs on businesses?” (1 = “to a great extent”; 7 = “not at all”).
- *Freedom of the Press.* “In your country, how free is the press?” (1 = “totally restricted”; 7 = “completely free”)
- *Irregular Payments and Bribes.* Average score across five WEF EOS questions: “How common is it for firms to make undocumented extra payments or bribes connected with (a) imports and exports; (b) public utilities; (c) annual tax payments; (d) awarding of public contracts and licenses; (e) obtaining favorable judicial decisions”. For each question, responses range from “1” (“very common”) to “7” (“never occurs”).
- *Judicial Independence.* “To what extent is the judiciary in your country independent from

influences of members of government, citizens, or firms?” (1 = “heavily influenced”; 7 = “entirely independent”).

- *Property Rights*. “How would you rate the protection of property rights, including financial assets, in your country?” (1 = “very weak”; 7 = “very strong”).

We measure regime type according to the widely-used scores of the Polity project, an annual, cross-national, time-series dataset containing country-level evaluations of regime type. The combined polity score ranges from -10 (strongly autocratic) to +10 (strongly democratic), with democracies attaining scores from 6 to 10, anocracies from -5 to 5, and autocracies from -6 to -10 (Marshall, Gurr, and Jagers 2002). Regression analysis follows the three-level coding. Descriptive statistics for the dependent variables across regime type are presented in Table 1.

< Insert Table 1 about here.>

Corollary indicators were first matched based on how closely they relate to the concept that each of the five EOS indicators purports to measure. They were then retained based on measurement scale, sample size, and organizational variety. Indicators measured on binary scales and with few observations across countries and years were excluded. Between two and four corollary indicators were retained for each of the five EOS indicators of interest (Figure 1). The study’s coverage consists of countries with polity scores from 2006 onwards and values for both EOS and respective corollary indicators. The unit of analysis is the country-year.

< Insert Figure 1 about here>

In each model, the EOS indicator is regressed on the corollary indicator and polity score.

An interaction term between the corollary measure and polity tests whether regime type moderates the relationship between a corollary and EOS indicator. Scores are considered to be inflated if the predicted value for an EOS score is higher for autocracies after accounting for the corollary measure. Table 2 reports descriptive statistics for the corollary indicators used in the analyses.

<Insert Table 2 about here>

Finally, the individual-level data come from the 2016 Executive Opinion Survey conducted in Qatar. The sample includes a total of 130 in-country executives, three-quarters of whom provide data about the location of their company's headquarters. This information is dichotomized, with the resulting indicator taking on a value of 1 when the company is based inside the country (59 percent of cases) and 0 when it is based outside (41 percent). For each question in the survey, including the five indicators considered in the cross-country analysis, predicted values based on headquarters location are estimated by OLS regression, controlling for respondent nationality (1 = local citizen; 0 = foreign national) and whether the local government has a stake in the respondent's firm (0 = no; 1 = yes).<sup>5</sup> Sample sizes for individual tests range from 87 to 94 observations. A measure of score inflation is then computed for each indicator as the percent change in predicted value due to a respondent's firm being located inside the country versus outside the country.

## Findings

### Country-Level Analysis

Control of Corruption. The first set of country-level analyses use survey responses from the EOS question regarding irregular payments and bribes. Recall that EOS variables are coded such that

higher numbers always correspond to normatively better evaluations, such as less corruption or a more independent judiciary. The scales of some corollary measures were reversed so that a positive relationship is always expected between variables. Figure 2 presents the marginal effects from regression models with an interaction between regime type (autocracy, anocracy, or democracy) and the two corollary measures. The main effect of polity is included on the graph indicating statistical significance at the intercepts,<sup>6</sup> along with the estimated slopes for each regime type. The relationship between the EOS and comparison measures should be strong and significant, because both measures purport to capture the same underlying concept.

Yet, these figures suggest a very different interpretation of the relationship between the measures. EOS respondents in autocracies underestimate the degree to which payments and bribes occur. Figure 2a reveals score inflation among autocracies in comparing Bertelsmann Transformation Index (BTI) anti-corruption policies to EOS opinions. The difference between autocracies and democracies is significant for all the observed values of the BTI measure, with autocracies rated higher than their democratic counterparts. Although both slopes are significant and positive as expected, the slope for autocracies is steeper ( $p = 0.08$ ). Thus, an improvement in the corollary scores is associated with a larger increase in EOS ratings for autocracies. The same pattern is repeated for the Varieties of Democracy (VDEM) public sector corruption (Figure 2b), whereby EOS scores are significantly inflated in autocracies for all observed values. Though the estimates converge at very low levels of corruption, the slopes for all regime types are positive and significant, with autocracies being significantly steeper. The interaction is significant, meaning that predicted values for autocracies improve at a faster rate than democracies. Since anocracies are a heterogeneous group of countries, it might be difficult to discern any

inflationary pattern among them. The predicted values for anocracies indicate mild levels of inflation in the BTI model, but are more similar to democracies for the VDEM model.

<Insert Figure 2 about here>

Judicial Independence. Figure 3 presents the EOS measure for judicial independence. In Figures 3a, 3b, and 3c, for BTI, Cingranelli-Richards (CIRI) Human Rights Data Project, and VDEM, respectively, the main effect of regime type is significant, indicating that the judiciary is evaluated more favorably (i.e., more independent) as polity values become more autocratic.

Score inflation exists not only at the intercepts, but also for all the values within one standard deviation of the mean (with the exception of the VDEM measure where the error bars overlap for high values). In two of the three cases, (BTI and VDEM) anocracies behave similar to autocracies only with lower intercepts and less severe inflation. In the CIRI model (3b), the slope is significantly smaller for anocracies, indicating a much weaker relationship between the corollary measures. Again, this may be due to within group heterogeneity.

<Insert Figure 3 about here>

Protection of Private Property. Figures 4a-d compare corollary measures to the WEF EOS indicator for property rights. Figures 4a and 4b present analysis for the BTI private property and Heritage Foundation (HF) property rights measures respectively. In both figures, EOS scores are significantly inflated in autocracies at almost all values. As expected, there is a positive and significant relationship between the measures in all regime categories. Predicted values for anocracies are mostly between those for autocracies and democracies, but the slopes are higher, indicating rapid improvement in EOS ratings.

Figure 4c demonstrates that EOS evaluations of private property and the CPIA measure

of property rights are positively and significantly related for democracies and anocracies, but not for autocracies. At low values of property rights protection, autocracies are rated highest. However, the data do not permit a precise estimation of the marginal effects for autocracies, so error bars are overlapping and the main effects are not significant. Figure 4d (for the ICRG property rights index) reflects a similar pattern, with autocracies receiving better evaluations than anocracies and democracies (which are indistinguishable) when property rights are least protected. These estimates are more precise and score inflation is statistically significant (though the main effect is not). Overall, the figures reveal a good deal of score inflation. In two out of four cases (BTI and HF), the inflation exists irrespective of the level of property rights, while in the fourth analysis (ICRG) score inflation is limited to lower values of property rights protection.

<Insert Figure 4 about here>

Freedom of the Press. Figure 5 (a-c) examines freedom of the press. For democracies, slopes are significant and in the expected direction for all models. However, the relationship is much less consistent among autocracies. Figure 5a examines the BTI freedom of expression measure.

Although a positive and significant relationship exists for all regime types, error bars are too large to detect significant inflation. Figure 5b matches EOS responses with Freedom House's (FH) freedom of the press score. The expected relationship is found across regime types. EOS evaluations are higher in autocracies for a wide range of values. The difference is significant for countries with less press freedom and at the intercepts (as signified by the main effects). The error bars are wide in the countries with the highest freedom, because there are so few autocracies with free presses.

Finally, Figure 5c plots EOS evaluations and VDEM media corruption where higher

scores indicate less corruption, and thus, more press freedom. For democracies, the relationship is positive and significant, whereas for autocracies the slope is negative. Although the predicted values for autocracies are higher than those for democracies on the lower end of the media corruption scales, estimates lack precision and are not statistically significant. In two of three models (5a and 5c), the relationship is weaker in anocracies and not statistically significant. In Figure 5b the slope is statistically significant, but much smaller than for other regime types. For freedom of the press, results are suggestive of inflation but are plagued by data limitations that make finding statistical differences between regime types difficult.

<Insert Figure 5 about here>

Crime and Violence. The fifth set of analyses examines EOS evaluations of the business cost of crime and violence against corollary measures of violence, terrorism, and stability (Figure 6).

Figure 6a, compares EOS responses with the CSPV measure of civil violence. The main effect of polity is significant, and the predicted values for autocracies are inflated compared to both democracies and anocracies for most values within one standard deviation of the mean.

Figure 6b presents the Fund for Peace (FFP) measure of group grievance. EOS scores remain significantly inflated for autocracies across all values of the scale. Perhaps this indicates that autocracies are especially careful to mitigate perceptions of instability and conflict between groups. Figure 6c examines Vision of Humanity's (VOH) Global Terrorism Index) and also shows score inflation among autocracies across the upper half of the global terrorism index values. Though estimates for autocracies remain higher than those for other regimes at the upper end of the index, estimates are too imprecise to differ statistically. In each of the models, anocracies behave more like democracies in both slope and intercept, suggesting that autocracies

are the chief inflators of perceptions of crime and violence.

<Insert Figure 6 about here>

### **Individual-Level Mechanisms**

Evaluation of the firm- and individual-level predictors of inflation within Qatar offers findings that are consistent with the mechanisms that are argued to underlie the cross-country results (see Table 3). While respondent nationality and government ownership are never statistically significant determinants of ratings for the five indicators considered in the cross-country analysis, executives from companies headquartered locally give evaluations that are significantly more positive than those employed at firms based outside the country. The magnitude of this score inflation ranges from 6 percent in the case of the business cost of crime and violence, to 25 percent in the case of judicial independence. In all cases, the between-group difference is significant at the  $p < 0.05$  level despite the small number of observations, and for two of the five indicators the significance reaches the  $p < 0.01$  level.

<Insert Table 3 about here>

Analysis of all available EOS indicators yields an even more striking picture. Headquarters location is a significant determinant of 50 percent of 141 total ratings at the  $p < 0.1$  level, and of 37 percent of all questions at the  $p < 0.05$  level. Indeed, executives of firms headquartered inside the country provide higher mean evaluations for all of the 141 indicators. Moreover, an item's susceptibility to bias is clearly linked to substantive sensitivity, with questions about political and other forms of governance eliciting far more inflation than mundane technical questions. Table 4 disaggregates the impact of inflation according to the EOS's 12 thematic sections, showing the proportion of questions affected by bias in each survey section, the

average inflation per affected item, and the total bias over the entire section. The resulting pattern is unmistakable: 83 percent (19 of 23) of governance questions are impacted, compared to almost no perceptible difference among a similar number of indicators related to infrastructure and technology. Excepting a short section on environmental protection, governance questions elicit the most inflation in the survey.

<Insert Table 4 about here>

### **Assessing the Impact of EOS Inflation: Transparency International's CPI**

The preceding sections demonstrated widespread bias in EOS data due to embeddedness between business and political elites at both the country and firm level. This section seeks to quantify the second-order effects of this bias by examining one prominent dataset that incorporates EOS results. Every year Transparency International releases its Corruption Perceptions Index, which scores and ranks 176 countries according to perceived levels of public sector corruption. These perceptions are measured by aggregating data from surveys and assessments of businesspeople and country experts. The EOS represents one of 13 data sources from 12 institutions that comprise the index (2016a). Data are rescaled, standardized, and averaged to produce a 0-100 scale, where 0 indicates the most corruption. CPI uses the average of two EOS indicators: the irregular payments and bribes indicator utilized in this paper, and another that asks about the diversion of public funds. Importantly, at least three of the 13 indicators must be available in order to calculate a score for a country (Transparency International 2016b). The average CPI score is calculated using 6.5 sources, which means that EOS data account for around 15 percent of most countries' CPI score.

<Insert Tables 5 about here>

Tables 5 and 6 present findings from analysis in which CPI scores and rankings were recalculated without EOS data, allowing for comparison between published CPI scores and non-EOS reliant scores. Although the aggregate CPI of all 176 countries is not greatly altered, there are significant yet variable changes for individual countries depending on regime type. Table 5 displays the 25 countries whose scores decrease the most—between 4 and 19 percent—when EOS data are omitted. As predicted by our theory, autocracies are the most inflated of all countries. Of the 167 countries classified by Polity in 2015, only 21 are autocracies and 5 are failed states. However, autocracies (9 countries) and failed states (2 countries) are disproportionately represented among CPI's top 25 inflated scores, among which only 3 are democracies.

<Insert Tables 6 about here>

Table 6 reports the average percent change in CPI score and rank across regime types. In general, scores and rankings are more inflated in more closed regimes. On average, CPI scores for autocracies decrease five percent, causing a related six-place drop in average rank. The CPI scores for democracies and full democracies, on the other hand, actually increase by 1 percent.<sup>7</sup> These findings are important because Transparency International's CPI scores are commonly used to study open and closed regimes (e.g., Rose-Ackerman 1999; Wu 2005; Lin 2014).

### **Conclusion**

The World Economic Forum's Executive Opinion Survey and other surveys of business elites are carried out—and widely utilized in research—because corporate executives are assumed to be better informed about important economic and political processes than other types of informants.

But a key assumption underlying these data is that respondents' privileged information is accurately transmitted in their responses or at least that any bias operates uniformly across individuals. This paper has outlined compelling evidence that this is not the case. Executive respondents in autocracies have strong political and material incentives to inflate governance and indeed other ratings on surveys such as the EOS, resulting in measurement error that varies with the degree of business and firm independence from local political authority<sup>8</sup>. Inflation is observed in both cross-national comparisons and in individual-level results from the case of Qatar, based on firm headquarters location as a proxy for local embeddedness.

The most plausible alternative explanation for these findings is less compelling than the one developed here. Specifically, it would be necessary to believe that executives in autocracies perceive and accurately report the objectively superior governance conditions related to all five governance dimensions, conditions which are systematically and erroneously downgraded by a disparate set of international observers and factual events-based data. Yet, as the governance dimensions for this study were purposefully selected in order to capture a variety of aspects of governance, some of which are conceptually related to democracy, it is unlikely that autocracies would excel in all these areas relative to democracies. Similarly, the alternative explanation for the individual-level findings must be that executives at firms headquartered inside an autocracy have superior knowledge of objectively better local conditions, information that other executives living and working in the same country do not possess. While past studies may be correct in assuming that business insiders have better knowledge of local conditions than outside experts, in autocracies they also face incentives to overreport positive outcomes and underreport negative outcomes that might touch on political sensitivities or impact investor behavior. This discrepancy

between knowledge and reporting is the most likely cause of the exaggerated good governance observed in this study.

Reliable data from autocracies are scarcer than those from open societies, and researchers may be tempted to use data in spite of inconsistencies. Of course the individual-level findings are from only one autocracy, and future research should seek to compare across regime types. In the meantime, researchers and policymakers whose work concerns closed regimes would do well to weigh the pressures facing survey respondents before relying on executive opinion data for measures of governance. Where inflation is thought likely, multiple data sources measuring the same concept can be examined, keeping in mind the possible biases attached to each source. Scholars studying the relationship between regime type and governance have particular cause for caution, as analysis of biased elite survey data may lead to spurious results and conflicting conclusions, even when using well-known sources such as the CPI. Future research should aim to better understand the country-, firm-, and individual-level mechanisms underlying score inflation and to investigate the types of questions most susceptible to bias. Thus, the search for better and more comprehensive governance data continues.

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<sup>1</sup> Doing Business and the Enterprise surveys are examples.

<sup>2</sup> While the sampling guidelines asked partner institutes to come as close as possible to a representative sample, there was a slight preference for interviewing business executives with an international perspective, which often meant reaching relatively large companies. By the 2008-2009 report, this preference was eliminated from the guidelines.

<sup>3</sup> Given the small sample of EOS respondents, it is likely that in many countries respondents could easily be identified at the firm or individual level bases on data such as company size and industry.

<sup>4</sup> Supplemental information about data analysis and findings can be found at the following link

<https://dataverse.harvard.edu/dataverse/goodgovernance>

<sup>5</sup> Among respondents who provided headquarters location data, only 18 percent of respondents were citizens, and 13 percent worked at a company in which the local government had a stake. Reported p-values are from ordered logistic regressions, with the exception of illegal payments and bribes where OLS p-values are appropriate because the composite variable is treated as

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continuous.

6 The main effect reported is from the bivariate model without the interaction term.

7 Although not estimated in this project, the WGI indices may not be as impacted by EOS bias as the CPI. In 2008 for instance, EOS sources accounted for only 4.5 percent of the data sources across the six WGI indices after weights from an unobserved components model are applied (Kaufmann, Kraay and Massimo 2009).

8 The GCR 2017-2018 indicates that the WEF has started adjusting certain survey scores using objective indicators from the GCI. Future research could look at how the adjusted and unadjusted scores differ across time. However, the same report offers no objective indicators for four of the five measures of governance examined in this project, so these new changes are not likely to address the bias we identify.

### References

- Acemoglu, Daron, Simon Johnson and James A. Robinson. 2001. "The Colonial Origins Of Comparative Development: An Empirical Investigation," *American Economic Review* 91: 1369-1401.
- Arndt, Christiane, and Charles Oman. 2006. *Uses and Abuses of Governance Indicators*. Paris: Organization for Economic Cooperation and Development.
- Biglaiser, Glen, and Michelle A. Danis. 2002. "Privatization and Democracy: The Effects of Regime Type in the Developing World." *Comparative Political Studies* 35(1): 83-102.
- Brunetti, Aymo, and Beatrice Weder. 2003. "A Free Press is Bad News for Corruption." *Journal of Public Economics* 87(7): 1801-1824.
- Bueno De Mesquita, Bruce, Alastair Smith, Randolph M. Siverson, and James D. Morrow. 2005. *The Logic of Political Survival*. Cambridge: MIT Press.
- Charron, Nicholas. 2016. "Do Corruption Measures Have a Perception Problem? Assessing the Relationship Between Experiences and Perceptions of Corruption Among Citizens and Experts." *European Political Science Review* 8: 147-171.

- "Corruption Perceptions Index 2015." 2015. *Transparency International*. Available online at <<http://www.transparency.org/cpi2015>>.
- D'Arcy, Michelle, and Marina Nistotskaya. 2017. "State First, Then Democracy: Using Cadastral Records to Explain Governmental Performance in Public Goods Provision." *Governance* 30: 193-209.
- Doucouliafos, Hristos, and Mehmet A. Ulubaşoğlu. 2008. "Democracy and Economic Growth: A Meta-Analysis." *American Journal of Political Science* 52: 61-83.
- Easterly, William, and Ross Levine. 2004. "Tropics, Germs, and Crops: How Endowments Influence Economic Development." *Journal of Monetary Economics* 50: 3-39.
- "Freedom in the World 2016: Anxious Dictators, Wavering Democracies: Global Freedom under Pressure." 2016. *Freedom House*. Available online at <<http://freedomhouse.org/report/freedom-world/2016>>.
- Geddes, Barbara. 1995. "Review: The Politics of Economic Liberalization." *Latin American Research Review*. 30(2): 195-214.
- Gerring, John, Philip Bond, Williwam T. Barndt, and Carola Moreno. 2005. "Democracy and Economic Growth: A Historical Perspective." *World Politics* 57: 323-364.
- Grindle, Merilee S. 2004. "Good Enough Governance: Poverty Reduction and Reform in Developing Countries." *Governance* 17: 525-548.
- Haddad, Bassam SA. 2011. *Business Networks in Syria: The Political Economy of Authoritarian Resilience*. Stanford: Stanford University Press.
- Haggard, Stephan, and Robert R. Kaufman. 1995. *The Political Economy of Democratic Transitions*. Princeton: Princeton University Press.

- Holmberg, Sören, Bo Rothstein, and Naghmeh Nasiritousi. 2009. "Quality of Government: What You Get." *Annual Review of Political Science* 12: 135-161.
- Hopkin, Jonathan. 2002. "States, Markets and Corruption: A Review of Some Recent Literature." *Review of International Political Economy* 9: 574-590.
- "International Country Risk Guide: Methodology." n.d. *Political Risk Services*. Available online at <<https://www.prsgroup.com/about-us/our-two-methodologies/icrg>>.
- Jamal, Amaney A. 2007. *Barriers to Democracy: The Other Side of Social Capital in Palestine and the Arab World*. Princeton: Princeton University Press.
- Kamrava, Mehran, Gerd Nonneman, Anastasia Nosova, and Marc Valeri. 2016. "Ruling Families and Business Elites in the Gulf Monarchies: Ever Closer?" Chatham House Research Paper.
- Kamrava, Mehran. 2017. "State-Business Relations and Clientelism in Qatar." *Journal of Arabian Studies* 7(1): 1-27.
- Karstedt, Susanne, and Gary D. LaFree. 2006. "Democracy, Crime, and Justice." *The Annals of the American Academy of Political and Social Science* 605: 6-23.
- Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2004. "Governance Matters III: Governance Indicators for 1996, 1998, 2000, and 2002." *The World Bank Economic Review* 18: 253-287.
- Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2007a. "Growth and Governance: A Reply." *Journal of Politics* 69: 555-562.
- Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2007b. "Worldwide Governance Indicators Project: Answering the Critics." World Bank Policy Research Working Paper

- No. 4149. Available online at <<https://ssrn.com/abstract=965077>>.
- Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2009. "Governance Matters VIII: Aggregate and Individual Governance Indicators 1996-2008." *The World Bank Development Research Group*. Available online at <<https://openknowledge.worldbank.org/bitstream/handle/10986/4170/WPS4978.pdf>>.
- Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. 2010. "The Worldwide Governance Indicators: Methodology and Analytical Issues." *The World Bank Development Research Group*. Available online at <<http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5430>>.
- Kaufmann, Daniel. 2005. "10 Myths About Governance and Corruption." *Finance and Development* 42: 41-43.
- Knack, Stephen, and Philip Keefer. 1997. "Does Social Capital Have an Economic Payoff? A Cross-country Investigation." *The Quarterly Journal of Economics* 112: 1251-1288.
- Knack, Stephen. 2007. "Measuring Corruption: A Critique of Indicators in Eastern Europe and Central Asia." *Journal of Public Policy* 27(3):255-291.
- Kuran, Timur. 1997. *Private Truths, Public Lies: The Social Consequences Of Preference Falsification*. Cambridge: Harvard University Press.
- Kurtz, Marcus J., and Andrew Schrank. 2007. "Growth and Governance: A Defense." *Journal of Politics* 69: 563-569.
- Lancaster, Thomas D., and Gabriella R. Montinola. 2001. "Comparative Political Corruption: Issues of Operationalization and Measurement." *Studies in Comparative International Development* 36: 3-28.

- Lin, Ming-Wei, and Chilik Yu. 2014. "Can Corruption be Measured? Comparing Global Versus Local Perceptions of Corruption in East and South East Asia." *Journal of Comparative: Policy Analysis: Research and Practice* 16: 140-157.
- Lindberg, Staffan I., Michael Coppedge, John Gerring, Jan Teorell, and et al. 2014. "V-Dem: A New Way to Measure Democracy." *Journal of Democracy*, 25(3): 159-169.
- Mansfield, Edward D., and Jack Snyder. 2005. *Electing to Fight: Why Emerging Democracies Go to War*. Cambridge: MIT Press.
- Marshall, Monty, G., Ted R. Gurr, and Keith Jaggers. 2016. "Polity IV Dataset." *Center for System Peace*. Available online at <<http://www.systemicpeace.org/inscrdata.html>>.
- McFaul, Michael. 1995. "State Power, Institutional Change, and the Politics of Privatization in Russia." *World Politics* 47(2): 210-243.
- Montinola, Gabriella R., and Robert W. Jackman. 2002. "Sources of Corruption: A Cross-country Study." *British Journal of Political Science* 32: 147-170.
- Norris, Pippa. 2012. *Making Democratic Governance Work: How Regimes Shape Prosperity, Welfare, and Peace*. New York: Cambridge University Press.
- North, Douglass C. (1990). *Institutions, Institutional Change, and Economic Performance*. New York: Cambridge University Press.
- O'Donnell, Guillermo. 1977. "Corporatism and the Question of the State." In *Authoritarianism and Corporatism in Latin America*, ed. James M. Malloy. Pittsburgh: University of Pittsburg Press, 47-87.
- Ong, Lynette H. 2012. "Between Developmental and Clientelist States: Local State-Business Relationships in China." *Comparative Politics* 44(2): 191-209.

- Pei, Minxin. 1995. "Creeping Democratization" in China." *Journal of Democracy* 6(4): 65-79.
- Pinotti, Paolo. 2015. "The Causes and Consequences of Organised Crime: Preliminary evidence across countries." *The Economic Journal* 125(586).
- Relly, Jeannine E and Meghna Sabharwal. 2009. "Perceptions of Transparency of Government Policymaking: A Cross-National Study." *Government Information Quarterly* 26(1):148-157.
- "Report Saudi Arabia 3<sup>rd</sup> Most Competitive in the Arab World," September 28, 2016 *Al Arabiya*. Accessed at <http://english.alarabiya.net/en/business/economy/2016/09/28/Report-Saudi-Arabia-3rd-most-competitive-in-the-Arab-world.html>.
- Rothstein, Bo, and Jan Teorell. 2008. "What is Quality of Government? A Theory of Impartial Government Institutions." *Governance* 21(2): 165-190.
- Seligson, Mitchell A. 2002. "The Impact of Corruption on Regime Legitimacy: A Comparative Study of Four Latin American Countries." *Journal of Politics* 64: 408-433.
- Steiner, Nils D. 2016. "Comparing Freedom House Democracy Scores to Alternative Indices and Testing for Political Bias: Are US Allies Rated as More Democratic by Freedom House?" *Journal of Comparative Policy Analysis: Research and Practice* 18: 329-249.
- Sung, Hung-En. 2004. "State Failure, Economic Failure, and Predatory Organized Crime: A Comparative Analysis." *Journal of Research in Crime and Delinquency* 41(2):111-129.
- Sung, Hung-En. 2006. "Police Effectiveness and Democracy: Shape And Direction Of The Relationship." *Policing: An International Journal of Police Strategies & Management* 29(2):347-367.
- Tannenberg, Marcus. 2017. "The Autocratic Trust Bias: Politically Sensitive Survey Items and

- Self-Censorship." V-Dem Working Paper 2017:49. Available online at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2980727](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2980727).
- Teorell, Jan, Stefan Dahlberg, Sören Holmberg, Bo Rothstein, Anna Khomenko, and Richard Svensson. 2016. "The Quality of Government Standard Dataset, Version Jan16." *University of Gothenburg: The Quality of Government Institute*. Available online at <http://www.qog.pol.gu.se> doi:10.18157/QoGStdJan16>.
- "The Global Competitiveness Report 2015-2016." 2017. *World Economic Forum*. Geneva: World Economic Forum.
- Transparency International. 2016a. "Corruption Perceptions Index 2016: Frequently Asked Question." Available online at [http://files.transparency.org/content/download/2058/13244/file/CPI\\_2016\\_FAQs\\_EN.pdf](http://files.transparency.org/content/download/2058/13244/file/CPI_2016_FAQs_EN.pdf).
- Transparency International. 2016b. "Corruption Perceptions Index 2016: Technical Methodology Note." Available online at [http://files.transparency.org/content/download/2055/13232/file/CPI\\_2016\\_TechnicalMethodologyNote\\_EN.pdf](http://files.transparency.org/content/download/2055/13232/file/CPI_2016_TechnicalMethodologyNote_EN.pdf).
- Treisman, Daniel. 2007. "What Have We Learned about the Causes of Corruption from Ten Years of Cross-National Empirical Research?" *Annual Rev. Polit. Sci.* 10: 211-244.
- Uslaner, Eric M. 2008. *Corruption, Inequality, and the Rule of Law: The Bulging Pocket Makes the Easy Life*. Cambridge: Cambridge University Press.
- "Vietnam Shows Improvement in Global Competitiveness Report," September 4, 2014. *Vietnam Briefing*. Available online at <http://www.vietnam-briefing.com/news/vietnam-shows->

improvement-global-competitiveness-report.html/>.

van de Walle, Steven. 2006. "The State of the World's Bureaucracies." *Journal of Comparative Policy Analysis*: 439-450.

"World Development Indicators, CPIA Database." 2016. *World Bank Group*. Available online at <<http://databank.worldbank.org/data/reports.aspx?source=2&series=IQ.CPA.PROP.XQ>>.

Wu, Xun. 2005. "Corporate Governance and Corruption: A Cross-Country Analysis." *Governance* 18: 151-170.

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**Table 1.** Mean and standard deviation of WEF EOS indicators across regime type

	<b>Autocracies</b>	<b>Anocracies</b>	<b>Democracies</b>	<b>Years Included</b>
<b>Irregular Payments and Bribes</b>	4.52 (1.15)	3.43 (0.99)	4.32 (1.16)	2010-2014
<b>Judicial Independence</b>	4.21 (0.96)	3.26 (1.07)	4.10 (1.36)	2006-2013
<b>Property Rights</b>	4.71 (0.71)	3.85 (0.97)	4.55 (1.05)	2006-2014
<b>Freedom of the Press</b>	4.10 (0.74)	4.14 (0.78)	5.22 (0.95)	2011-2014
<b>Business Cost of Crime and Violence</b>	5.44 (0.83)	4.32 (1.06)	4.49 (1.13)	2006-2014

Note: The number of country-year observations for autocracies ranges between 39 (freedom of the press) and 115, with an average of 90 per variable. Anocracy-year observations range between 101 (freedom of the press) and 262, with an average of 203 observations per variable. Democracy-year observations range between 262 (freedom of the press) and 759 with an average of 576 per variable.

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**Table 2.** Descriptive statistics of corresponding corollary indicators used for analysis

EOS Indicator	Corresponding Corollary Indicators	N	Mean (SD)	Range	Years Available
<i>Irregular Payments and Bribes</i>	BTI Anti-Corruption Policy	193	4.74 (1.83)	1 – 10	2010, 2014
	VDEM Public Sector Corrupt Exchanges	365	1.92 (1.01)	0 – 4	2010–2012
<i>Judicial Independence</i>	BTI Independent Judiciary	364	5.71 (2.11)	1 – 10	2006, 2008, 2010, 2012
	CIRI Independence of the Judiciary	728	0.90 (0.86)	0 – 2	2006–2011
	VDEM Judicial Corruption Decision	815	2.33 (0.96)	0 – 4	2006–2012
<i>Property Rights</i>	BTI Private Property	364	6.86 (1.72)	1 – 10	2006, 2008, 2010, 2012
	HF Property Rights	1,114	47.81 (23.23)	0 – 100	2006–2014
	CPIA Property Rights and Rule-based Governance	355	2.98 (0.49)	1 – 6	2006–2014
	ICRG Property Rights Index	980	10.76 (2.91)	1 – 16	2006–2014
<i>Freedom of the Press</i>	FH Freedom of the Press Score	393	47.32 (21.76)	0 – 100	2011–2014
	BTI Freedom of Expression	99	6.17 (2.17)	1 – 10	2012
	VDEM Media Corruption	126	2.73 (0.86)	0 – 4	2011–2012
<i>Business Cost of Crime and Violence</i>	CSPV Magnitude Score of Civil Violence	1,121	0.08 (0.48)	0 – 4	2006–2014
	FFP Group Grievance	1,106	5.69 (1.98)	1 – 10	2006–2014
	VOH Global Terrorism Index	1,103	2.06 (2.22)	0 – 10	2006–2014

Note: Indicator sample sizes reflect country-years.

**Table 3.** Predicted values of 2016 EOS governance indicators in Qatar (1–7), by respondent company headquarters location either outside or inside the country

	HQ Outside	HQ Inside	$p >  t $	Inflation <sup>b</sup>
<b>Irregular Payments and Bribes<sup>c</sup></b>	5.80 <sup>a</sup>	6.32	0.020	+9.1%
<b>Judicial Independence</b>	4.46	5.58	0.004	+25.3%
<b>Property Rights</b>	4.87	5.82	0.002	+19.5%
<b>Press Freedom</b>	4.16	5.17	0.013	+24.3%
<b>Business Cost of Crime and Violence</b>	6.09	6.43	0.014	+5.7%

<sup>a</sup> Predicted values estimated by OLS regression, controlling for respondent nationality (1 local citizen, 0 foreign national) and government stake in respondent's firm (0 No, 1 Yes). Bivariate difference-of-means tests (i.e., omission of the two control variables) give almost identical predicted values, significance, and inflation estimates.

<sup>b</sup> *Inflation* calculated as relative percent change from *HQ Outside* to *HQ Inside*.

<sup>c</sup> Individual sample sizes range from  $N = 81$  to  $N = 86$ .

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**Table 4.** Proportion of inflated EOS items by section in Qatar

	(a)	(b)	(c)	(d)
<b>EOS Section</b>	<b>Prop. Inflated (<math>p &lt; 0.05</math>)</b>	<b>Prop. Inflated (<math>p &lt; 0.10</math>)</b>	<b>Mean Inflation (using <math>b</math>)</b>	<b>Total Inflation (<math>b \cdot c</math>)</b>
Environment	100% (3 of 3)	100% (3 of 3)	24%	24%
Governance	61% (14 of 23)	83% (19 of 23)	20%	17%
Education and Human Capital	61% (17 of 28)	82% (23 of 28)	18%	15%
Foreign Trade and Investment	43% (3 of 7)	43% (3 of 7)	22%	9%
Security	75% (3 of 4)	75% (3 of 4)	11%	8%
Travel and Tourism	20% (1 of 5)	40% (2 of 5)	21%	8%
Domestic Competition	18% (2 of 11)	36% (4 of 11)	17%	6%
Business Operations and Innovation	22% (5 of 23)	35% (8 of 23)	15%	5%
Financial Environment	20% (2 of 10)	30% (3 of 10)	12%	4%
Health	0% (0 of 3)	33% (1 of 3)	7%	2%
Technology	15% (2 of 13)	15% (2 of 13)	8%	1%
Infrastructure	0% (0 of 11)	0% (0 of 11)	–	0%
<b>Overall</b>	<b>37% (52 of 141)</b>	<b>50% (71 of 141)</b>	<b>20%</b>	<b>13%</b>

Table 5: Top 25 inflated countries based on CPI before and after EOS removed

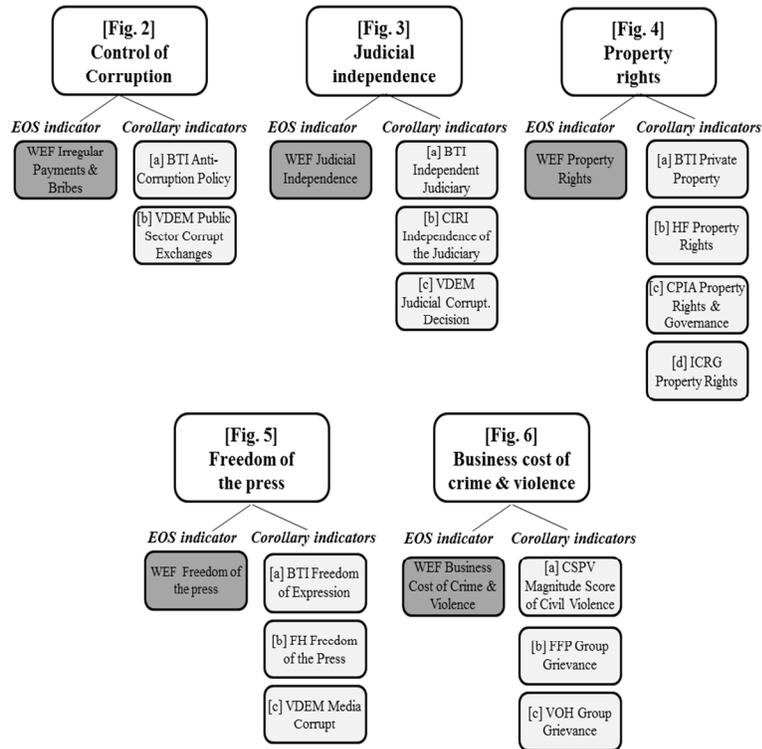
Country	CPI 2016	CPI no EOS	% change CPI score	Rank CPI 2016	Rank no EOS	Change in rank	No. of sources	Polity score	Regime type
<b>Gambia</b>	26	21	-19.2%	145	155	-10	5	-5	Closed Anocracy
<b>Tajikistan</b>	25	20	-19.2%	151	158	-7	6	-3	Closed Anocracy
<b>Laos</b>	30	25	-17.8%	123	149	-26	4	-7	Autocracy
<b>Bahrain</b>	43	37	-14.0%	70	90	-20	5	-10	Autocracy
<b>Oman</b>	45	40	-12.2%	64	78	-14	5	-8	Autocracy
<b>Saudi Arabia</b>	46	41	-12.0%	62	75	-13	5	-10	Autocracy
<b>Rwanda</b>	54	50	-8.1%	50	55	-5	6	-3	Closed Anocracy
<b>Armenia</b>	33	30	-7.9%	113	126	-13	6	5	Open Anocracy
<b>Azerbaijan</b>	30	28	-7.8%	123	134	-11	7	-7	Autocracy
<b>Kazakhstan</b>	29	27	-7.8%	131	139	-8	9	-6	Autocracy
<b>Macedonia</b>	37	34	-7.7%	90	106	-16	7	9	Democracy
<b>Egypt</b>	34	32	-5.9%	108	116	-8	6	-4	Closed Anocracy
<b>Qatar</b>	61	58	-5.7%	31	43	-12	7	-10	Autocracy
<b>Guatemala</b>	28	26	-5.7%	136	144	-8	6	8	Democracy
<b>India</b>	40	38	-5.7%	79	87	-8	8	9	Democracy
<b>South Sudan</b>	11	10	-5.5%	175	175	0	5	0	Failed State
<b>Cambodia</b>	21	20	-5.4%	156	158	-2	8	2	Open Anocracy
<b>UAE</b>	66	63	-5.3%	24	29	-5	7	-8	Autocracy
<b>Burundi</b>	20	19	-5.0%	159	162	-3	6	-1	Closed Anocracy
<b>Russia</b>	29	28	-4.7%	131	134	-3	9	4	Open Anocracy
<b>Zimbabwe</b>	22	21	-4.5%	154	155	-1	9	4	Open Anocracy
<b>Jordan</b>	48	46	-4.5%	57	62	-5	8	-3	Closed Anocracy
<b>Afghanistan</b>	15	14	-4.0%	169	170	-1	5	-1	Closed Anocracy
<b>Haiti</b>	20	19	-3.8%	159	162	-3	5	0	Failed State
<b>China</b>	40	39	-3.6%	79	81	-2	8	-7	Autocracy

**Table 6:** CPI change in score after EOS removed, by Polity regime type

	<b>Avg. percent change in CPI score</b>	<b>Avg. change in rank</b>	<b>Avg. number of data sources</b>
Autocracy	-5.0%	-6	5.9
Closed Anocracy	-2.9%	-1	6.5
Open Anocracy	-0.3%	0	6.7
Democracy	1.1%	2	7.0
Full Democracy	1.1%	1	7.1
<b>Average (all regime types)</b>	<b>-0.3%</b>	<b>0</b>	<b>6.5</b>
Top 25 inflators	-8.1%	-8	6.5
All others	1.0%	1	6.6

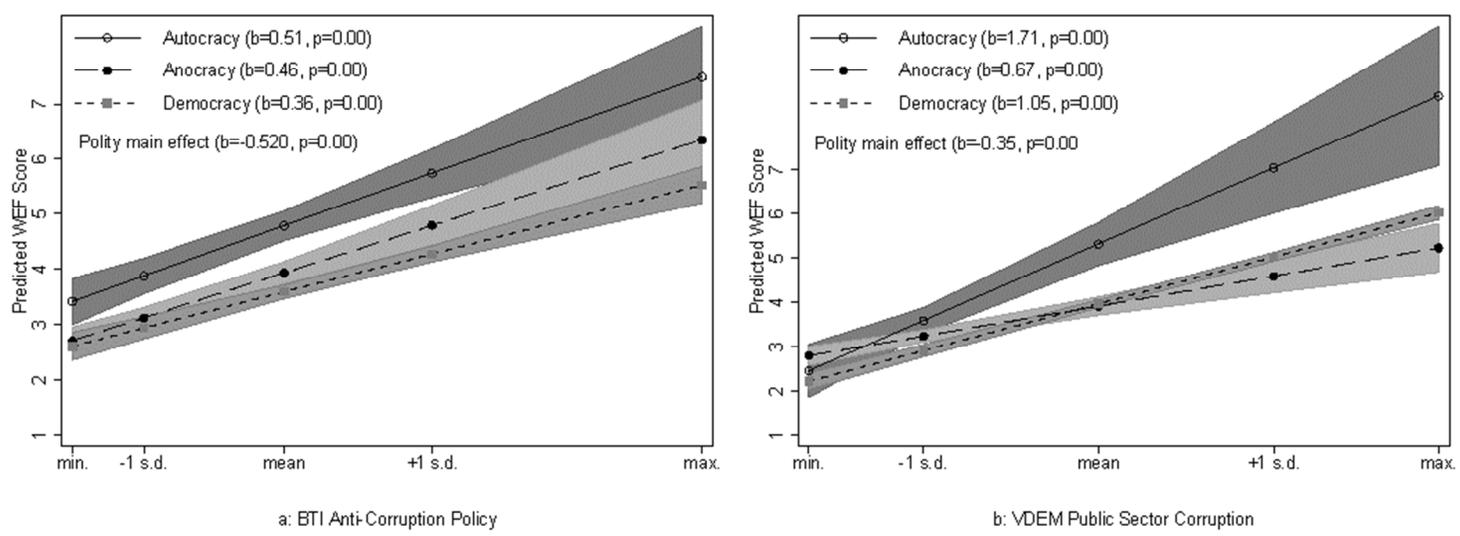
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**Figure 1: Key governance indicators and their corollaries**



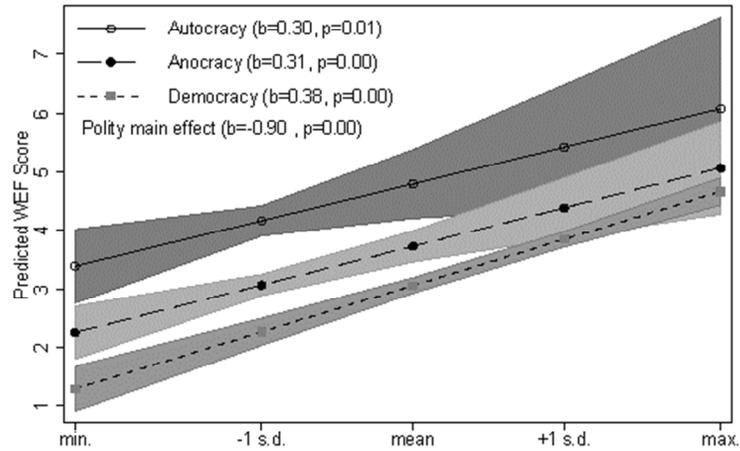
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Figure 2. Control of corruption: EOS and corollary measures by regime type

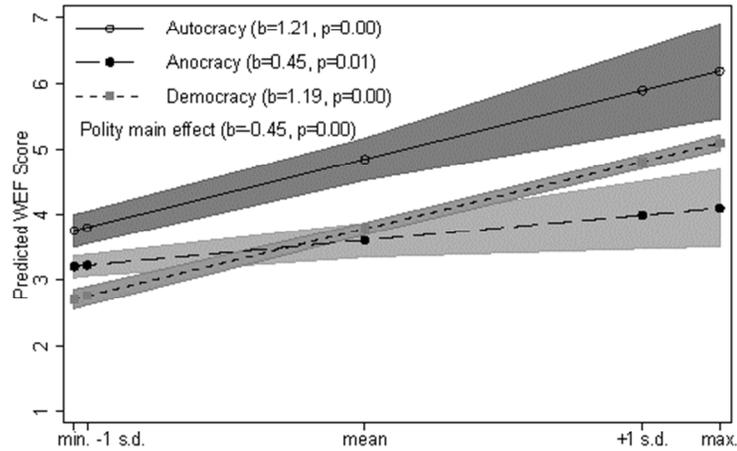


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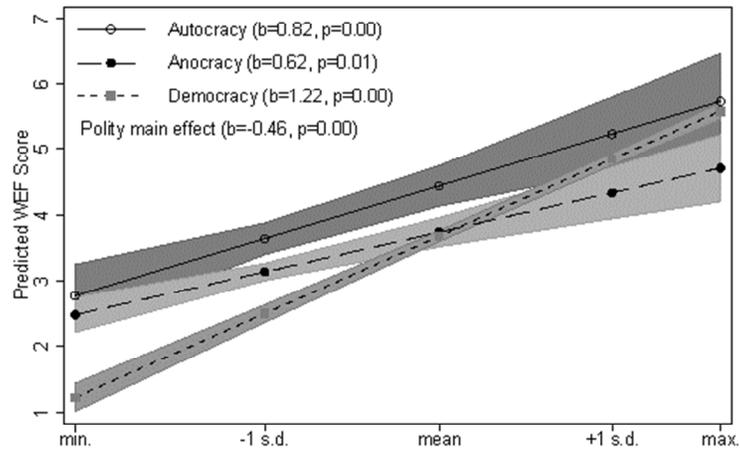
**Figure 3.** Judicial independence: EOS and corollary measures by regime type



a: BTI Independent Judiciary



b: CIRI Independence of the Judiciary



c: VDEM (Lack of) Judicial Corruption

Figure 4. Property rights protection: EOS and corollary measures by regime type

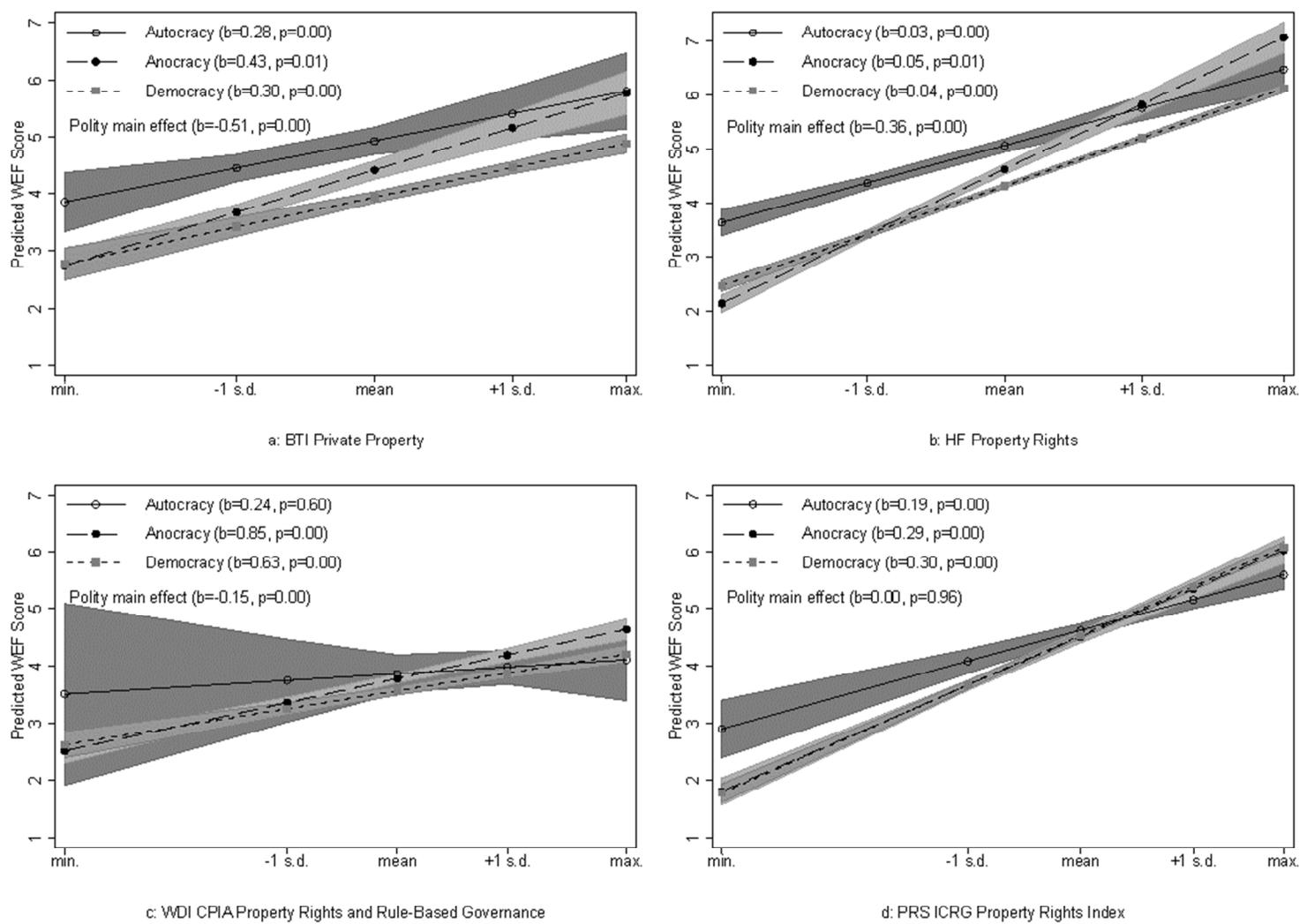


Figure 5. Freedom of the press: EOS and corollary measures by regime type

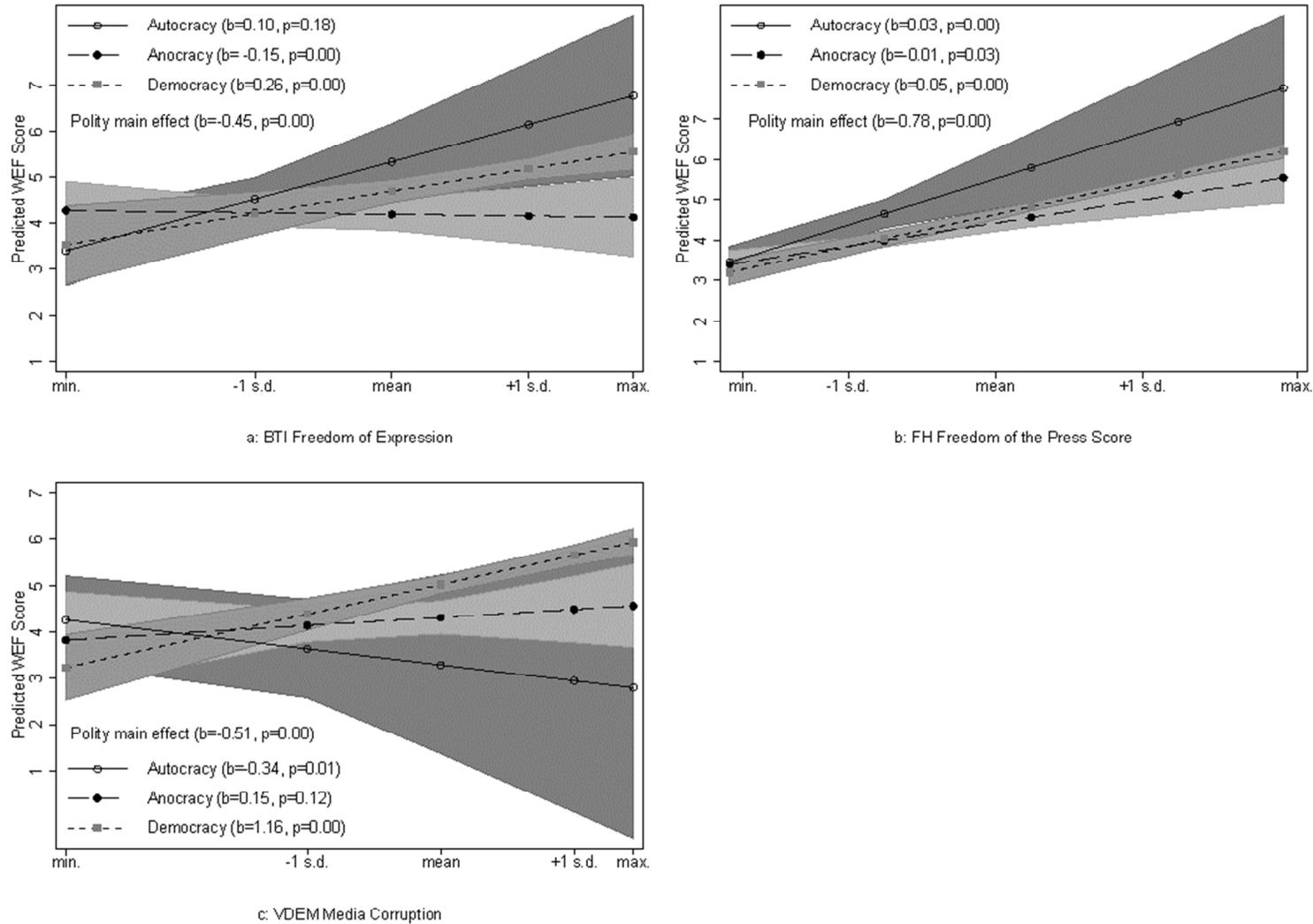
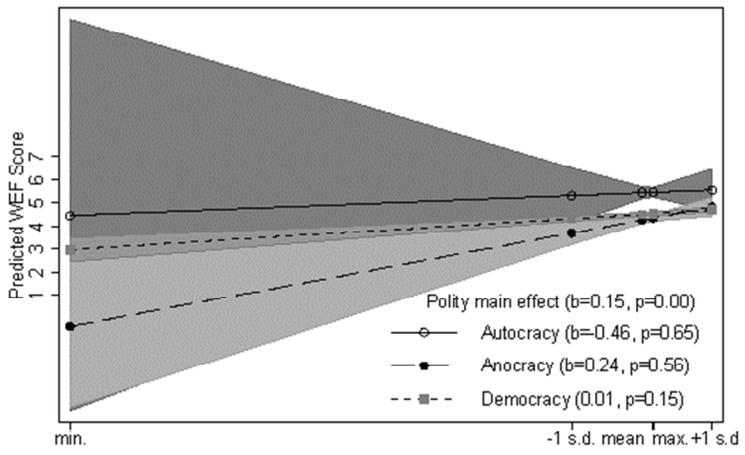
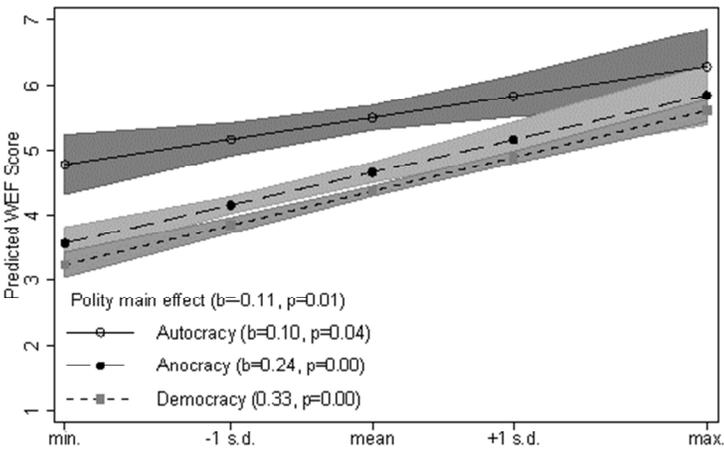


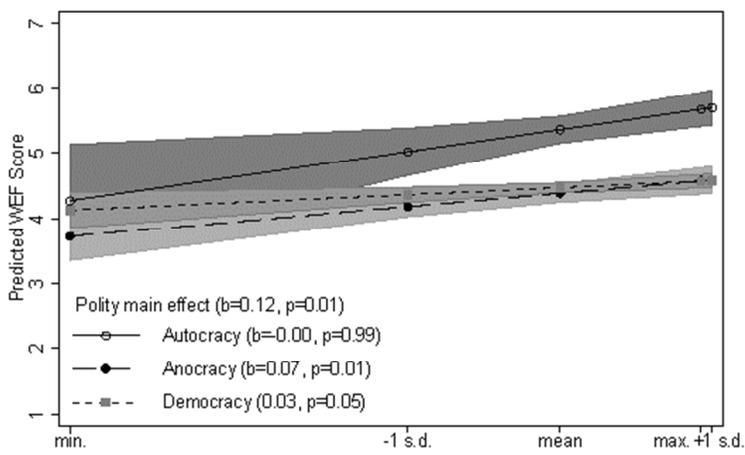
Figure 6. Crime and violence: EOS and corollary measures by regime type



a: CSPV Magnitude Score of Episodes of Civil Violence (reversed)



b: FFP Group Grievance (reversed)



c: VOH Global Terrorism Index (reversed)

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