Legislative Capacity in the GCC States after the Arab Spring

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Abstract

The Arab Spring began over 15 years ago in Tunisia, and the movement would spread throughout the Arab world, including to the Gulf monarchies. As a result of the uprisings, legislative capacity–institutional autonomy and influence over the executive–would appear to change in the dynastic monarchies of the Gulf. We seek to understand to what extent did the states within the Gulf Cooperative Council (GCC) increase their legislature's capacity due to the Arab Spring. The states within the GCC are believed to have been largely immune from the influence of opposition forces in North Africa, yet most analyses of reforms occurred only a few years following 2011. In addition to the limited time scale, the majority of literature relies on qualitative research methods; the existing literature suggests that the states within the GCC did not substantively reform their legislature's capacity. We use data from the World Bank and the Parliamentary Power Index (PPI) to construct an Interrupted Time Series (ITS) model in which the legislative capacity of the GCC states is evaluated from 2001-2019 and the United Arab Emirates (UAE) as the baseline country. Within the model, 2011 serves as the intervention to represent the Arab Spring. Our findings support the assertions of qualitative studies regarding the GCC states' reaction to the 2011 uprisings. The intervention did not have a statistically significant relationship with legislative capacity. However, time trends before and after the Arab Spring did have a statistically significant relationship with legislative capacity, reinforcing the idea that legislative capacity did not change substantively. Rather, the model supports that the GCC states passed performative reforms to mitigate dissent.

Background

Context of the Arab World and the Arab Spring

Before analyzing the Arab Spring with quantitative methods, it is imperative to highlight the cultural and historical context in the Arab world and the Arab Spring. When researching legislatures and government reforms, there is a heavy focus on Western states and an assumption that they will serve as the baseline. This research aims to provide a quantitative examination of the Arab Spring while still underscoring the environmental factors. The goals of the research are to understand the relationship between the Arab Spring in the GCC states and their legislative capacity, contribute to existing literature, and explore alternative, quantitative methods.

Across the Middle East and North Africa (MENA), states have dealt with oppression and a reliance on natural resources, mainly oil, which resulted in economic stagnation (Jamshidi, 2014). Due to economic hardships, several states sought aid from the International Monetary Fund (IMF) for loan relief; help from the IMF is usually tied to requiring the implementation of neo-liberal economic policies. This was a catalyst for the shift in the power balance between governments and the public. Following the privatization of previously state-owned industries, there was a lack of regulation or institutional strength to prevent a monopolization of wealth. Thus, those with financial resources or insider knowledge were able to quickly purchase equity in the newly private companies with substantial discounts, and economic inequality's growth accelerated in the MENA region. The Arab Spring would erupt due to the self-immolation of Mohamed Bouazizi in Tunisia, a young man struggling to find formal employment. His friends protested in reaction, his death causing a ripple effect through the country that would result in President Zine el Abidine Ben Ali leaving office after 23 years. Beginning in early 2011, substantial protests occurred in the Gulf in Yemen and Bahrain that would upend government control and require intervention from the GCC.

Despite the multitude of influences that stirred opposition forces to protest in 2011, the Arab Spring surprised experts on authoritarianism in the MENA region, who believed that Arab states had a unique ability to prevent institutional and structural reforms (Josua & Edel, 2021). It is likely the uprisings shocked North Africa's neighbors in the Gulf, the GCC states.

The GCC

The GCC began as a symbolic organization in the 1980s following the Iranian Revolution and the start of the Iran-Iraq War (Berger, 2014). Both events threatened the monarchies, and they feared the Pan-Arabism in Iraq and the support for revolution by Ayatollah Ruhollah Khomeini. Within the GCC, there exists an ever-present vie for dominance and power. Saudi Arabia, the wealthiest state, often acts as the hegemon within the GCC and pushes for maintenance of the status quo. It saw the GCC as counter to the uprisings of the Arab Spring, as the Gulf monarchies rely heavily on legitimacy to sustain control.

The GCC was not simply symbolic during the Arab Spring. To suppress protests during the Arab Spring, Bahrain relied on forces from the GCC states called the Peninsula Shield Force (primarily 1,500 National Guard troops from Saudi Arabia). Other GCC states did not contribute greatly to aiding Bahrain suppress the protests due to worries concerning perceptions and differing approaches to opposition forces. The GCC would also play a role in Yemen when the government responded with extreme violence to protests and the presidential palace was attacked; the organization would lead negotiations with President Ali Abdullah Saleh to ensure his resignation after 33 years in office (Jamshidi, 2014).

Survey of Literature

During the Arab Spring, the states within the GCC had varying levels of dissent and revisions to their legislative capacity. It is important to differentiate between legislative capacity and legislative performance. Legislative capacity is a body's potential power while legislative performance is its concrete, policy output (Arter, 2006). Evaluating the GCC states based on legislative performance offers a narrow assessment of institutional changes due to the Arab Spring. Analyzing legislative capacity allows for a more liberal view of reform when assessing authoritarian regimes. Regarding non-democratic states, functionalism, in which legislatures act as more than only law-making bodies, serves as an effective lens by which to view their legislatures (Mezey, 1979).

The effectiveness of the uprisings and the subsequent reforms is debated within the monar-

chic states. Many scholars emphasize the difference in the linchpin monarchies (Jordan and Morocco) versus the dynastic monarchies (the GCC states). In a dynastic monarchy the royal family is involved in the quotidian management of state bureaucracies while the royal family only oversees political strategy in a linchpin monarchy (Barany, 2012). Thus, King Abdullah of Jordan has not prioritized nepotistic appointments to maintain political peace and power unlike Sultan Haitham bin Tariq of Qatar (Bank et al., 2014). Evaluating the legislative capacity of both linchpin monarchies and dynastic monarchies proves difficult when the central control of government differs. Furthermore, dynastic monarchies rely on consensus within the royal family, leading to a decreased centralization of power (Bank et al., 2015). In order to maintain a greater hold on authority, families within dynastic monarchies rely on monopolizing crucial positions in the administration and security sphere.

Although the GCC states share influential commonalities, scholars highlight key differences that affected their ability to respond to political instability. However, political stability is often associated with the Western-centered state functionality approach, which argues that a state is stable when it meets the responsibilities of statehood (Margolis, 2010). Those assumed responsibilities are highly subjective and are problematic when applied to the Gulf States. The definition of political stability as the absence of violence and structural change by Leon Hurwitz better encapsulates the antithesis of the Arab Spring's uprisings (Hurwitz, 1973).

A quantitative analysis of the Arab Spring states that the ability of government to reduce social tensions and the presence of resilience to internal conflicts are the main factors that minimize sociopolitical destabilization (Andrey V. Korotayev et al., 2014). The legitimacy of the political regime heavily influences the government's capabilities in mitigating social tensions; the correlation coefficient between the rank of political regime in the degree of legitimacy and scope of revolutionary actions is 0.88. The strong, positive correlations indicate the relevancy of legitimacy in Arab states' leadership. Other important social instability factors include the presence of ethnic conflicts, a high level of poverty, inequality, and excessive government corruption. Despite previous studies emphasizing corruption and poverty, the quantitative analysis did not find a strong

coefficient of determination between the potential instability and those variables. The disparity between qualitative research and quantitative research requires further examination.

Samuel P. Huntington's king's dilemma epitomizes the struggle of the Gulf States. Monarchs struggle to modernize while maintaining monarchic rule, and they have three options when faced with this predicament (Anckar, 2021). The GCC states appear to choose maintenance, as the other paths forward require an acquiescence of power. In order to maintain their authority, they rely on "buying social peace" to mitigate opposition activity (Barany, 2012, p. 23). Therefore, the wealthier of the GCC states have a greater ability to lessen or prevent upheaval. Before protests occurred in Saudi Arabia, the government pledged $37 billion to increasing civil service salaries and developing low-income housing units. It was also one of the Gulf States that was largely immune from the Arab Spring according to the literature published soon after 2011. GDP per capita is a factor that acts as another representation of buying social peace and is an indicator of potential violence (Poulos & Haddad, 2016). Additionally, the differing level of economic prosperity among GCC states led to certain states assisting others in suppressing protests during the Arab Spring, suggesting these wealthier Gulf states were able to simultaneously handle internal uprisings and external conflicts. The revenue from oil serves as a crucial economic factor. The ratio of oil revenue to total GDP can indicate whether a state is suffering from the paradox of plenty, a trap in which states with plentiful natural resources fails to develop other sectors and becomes economically underdeveloped (Jolo et al., 2022). For states that rely on buying social peace, oil rents may be an additional indicator of potential violence.

While a substantial body of literature has examined the internal organization and procedural rules of legislatures, there is an observable gap in comparative politics scholarship on the measurement and comparison of actual institutional power of legislative bodies across countries. Constructed for measuring legislative power comparatively, the Parliamentary Power Index (PPI)– developed by M. Steven Fish and Matthew Kroenig in their 2009 volume of The Handbook of National Legislatures: A Global Survey–, was the first attempt to operationalize legislative power (Fish & Kroenig, 2009). Fish and Kroenig addressed this gap by developing a standardized in-

dex scored across thirty-two binary indicators organized into four dimensions: the legislature's influence over the executive and its policies, its autonomy from executive control, its specified institutional powers, and its internal capacity to function as an independent branch of government. Each indicator is coded as a binary value, either present or absent in a given legislature. Then, a composite PPI score is calculated as the proportion of indicators coded as present, producing a continuous index ranging from 0 to 1 in which higher scores indicate greater legislative power. The index was applied to 158 national legislatures worldwide, establishing measurable, comparative parameters.

Despite its widespread adoption in comparative legislative studies, the PPI has attracted a number of methodological and theoretical critiques directly relevant to its application. The most fundamental criticism concerns the index's reliance on formal, de jure indicators of legislative power–powers as codified in constitutional texts and legal statutes–rather than the de facto exercise of those powers in practice. The gap between formal institutional provisions and their practical application is particularly pronounced in hybrid and authoritarian regimes in which constitutional guarantees of legislative authority may coexist with executive dominance that renders those provisions largely symbolic. A related critique concerns the binary coding scheme, which fails to capture partial or graduated institutional capacity. This approach assumes that legislative powers are discrete and categorical when in reality they can differ in magnitude from internal factors; this approach may obscure meaningful variation among legislatures that formally possess a given power but exercise it with vastly different degrees of frequency or effectiveness. Later scholars have questioned the equal weighting of all thirty-two indicators, arguing that different dimensions of legislative power carry different theoretical influence depending on the regime context under examination (Chernykh et al., 2017). These limitations are particularly salient in the context of Gulf monarchies where legislatures operate under top-down structural constraints, including executive appointment of upper chambers, royal decree authority, and the absence of competitive multiparty elections, which falls outside of the original PPI framework. In response to these limitations, this study employs a modified and reweighted version of the PPI, truncated to the subset of indicators

most applicable to the GCC institutional context and adjusted to assign greater weight to dimensions of legislative autonomy from the executive, monarchical authority.

In a later work, Fish underscores the ability of strong legislatures to effectively check the power of the executive, indicating the importance of a legislature's influence over the executive (2006). Without autonomy from the executive, it is difficult for legislatures to exercise influence without fear of repercussions. The interdependence of influence and autonomy in relation to the executive suggests that they should be studied jointly.

The Arab Spring spurred a definitive state reaction across the Middle East, though at differing degrees. States within the GCC contain the most ingrained executives within the region, historically maintaining their power without internal concessions. As a result, these countries have resisted drastic democratic changes to their governing systems. Furthermore, the established impact of dynastic monarchies dilutes the possibility of intra-governmental dissent, facilitating the monarchies' control across branches of government. Thus, we hypothesize that the GCC states passed reforms following the Arab Spring, but the uprisings did not result in a substantial increase in legislative capacity.

Methods

This study employs an Interrupted Time Series (ITS) design to assess the effect of the Arab Spring on legislative capacity across GCC states. ITS is a quasi-experimental method suited to settings in which a discrete event interrupts a pre-existing time trend, and the model produces estimates of both an immediate level change and a shift in trajectory following the intervention (Lopez Bernal et al., 2016). This design is appropriate for the study, as the Arab Spring constitutes a plausible exogenous shock to GCC political institutions and the absence of a clean untreated control group among GCC states limits the applicability of a standard Difference-in-Differences approach.

The dependent variable is Legislative Capacity, a modified version of the PPI which is reweighted and truncated to reflect the institutional context of Gulf monarchies and scored as a composite index ranging from 0 to 1. Our version of the PPI captures the entirety of two of the

original four sections, Influence Over Executive and Institutional Autonomy.

Table 1
Dimensions of Modified PPI

Influence Over Executive	Institutional Autonomy
The legislature alone, without the involvement of any other agencies, can impeach the president or replace the prime minister.	The legislature is immune from dissolution by the executive
Ministers may serve simultaneously as members of the legislature	Any executive initiative on legislation requires ratification or approval by the legislature before it takes effect; that is, the executive lacks decree power.
The legislature has powers of summons over executive branch officials and hearings with executive branch officials testifying before the legislature or its committees are regularly held	Laws passed by the legislature are veto-proof or essentially veto-proof; that is, the executive lacks veto power, or has veto power but the veto can be overridden by a majority in the legislature
The legislature can conduct independent investigation of the chief executive and the agencies of the executive.	The legislature's laws are supreme and not subject to judicial review.
The legislature has effective powers of oversight over the agencies of coercion (the military, organs of law enforcement, intelligence services, and the secret police).	The legislature has the right to initiate bills in all policy jurisdictions; the executive lacks gatekeeping authority.
The legislature appoints the prime minister.	Expenditure of funds appropriated by the legislature is mandatory; the executive lacks the power to impound funds appropriated by the legislature.
The legislature's approval is required to confirm the appointment of ministers; or the legislature itself appoints ministers.	The legislature controls the resources that finance its own internal operation and provide for the perquisites of its own members.
The country lacks a presidency entirely or there is a presidency, but the president is elected by the legislature.	Members of the legislature are immune from arrest and/or criminal prosecution.
The legislature can vote no confidence in the government.	All members of the legislature are elected; the executive lacks the power to appoint any members of the legislature.

The panel covers six GCC states: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE), observed annually from 2001 to 2019. Additionally, the scoring mechanism of the PPI has been altered. In the original index, each question was scored on a binary scale. This methodology works on a global scale. However, within the limited sample size of distinctly monarchical states, the binary scale inhibits the recording of smaller, less comprehensive reforms. Our reweighting includes a partial 0.5 option, serving as an indication of improvements in legislative capacity while still not completely meeting the criteria indicated by the PPI. This ternary system facilitates the possibility of nuance in reforms that would now be captured by the index. The collection of data relies on the manual review of constitutional amendments, royal decrees, and documented actions by the legislatures of these countries.

The Occurrence of the Arab Spring is the independent variable, serving as the intervention point within the ITS model. It is coded as a dummy variable; coded 0 for all years pre-dating 2011, and 1 for 2011 and all years following. Timepre and Timepost capture the periods both before and after the intervention point. These variables depict the rate of change of the PPI over the time period, rather than the score themselves over time.

Country fixed effects variables are included to control for all time-invariant differences between GCC states, ensuring that the ITS coefficients reflect within-country changes in legislative power over time rather than pre-existing structural differences between countries. These baselines are aggregated relative to one specific country, in which the UAE was used in this case. The following variables were additionally selected due to their potential confounding nature as discussed in the literature: natural log of GDP per Capita (2015 $USD), Oil Rents as % of GDP, and Control of Corruption (percentile rank). Normalizing GDP per Capita ensures that the large values do not skew results and lead to assumptions based on scale effects. A similar consideration was applied to selecting Oil Rent as % of GDP instead of raw oil revenue. Additionally, the revenue as a percent of GDP encapsulates greater nuance regarding economic development. Control of Corruption (percentile rank) is based on perceptions of how public power is utilized for private benefit; it includes the "'capture' of the state by elites and private interests" (World Bank Group, 2026). It

is important to note that it represents the relative position of a country with 0 being the lowest rank and 100 being the highest rank. Thus, Control of Corruption as a percentile rank does not demonstrate absolute changes in corruption and was chosen because our model is comparing the GCC states simultaneously.

The data for these variables originates from datasets collected by the World Bank. Altogether, the Interrupted Time Series design estimates the relationship of the variables.

$$\begin{aligned}\text{Legislative Capacity}_{it} = {} & \beta_0 + \beta_1(\text{Time}_t) + \beta_2(\text{Intervention}_t) + \beta_3(\text{Time-Post}_{it}) \\ & + \beta_4(\text{Bahrain}_i) + \beta_5(\text{Kuwait}_i) + \beta_6(\text{Oman}_i) + \beta_7(\text{Qatar}_i) \\ & + \beta_8(\text{Saudi Arabia}_i) + \beta_9(\ln\ \text{GDP per capita}_{it}) + \beta_{10}(\text{Oil Rents}_{it}) \\ & + \beta_{11}(\text{Corruption}_{it}) + \varepsilon_{it}\end{aligned}$$

In the equation, β_0 is the y-intercept, and β_1-β_{11} are the coefficients for their respective independent/confounding variables. They represent the estimated change in Legislative Capacity for every one-unit change in the specific independent variable, holding all other variables constant. ε is the error term. It represents the part of Legislative Capacity not explained by the independent variables in the model, and captures the effects of all other factors that influence Legislative Capacity not included in the equation. However, it is not useful for a realistic analysis of Legislative Capacity, as it would be impossible for some of the variables to be a true 0. The greater the magnitude of each β value, the greater the effect of that independent variable on the strength of legislative capacity in the country. For this study, β_2, as the intervention point, must have a positive magnitude value to equally show an impact due to the Occurrence of the Arab Spring on improving Legislative Capacity.

This design should undergo testing to ensure that the error terms across observations are independently distributed where the residual in one time period should not systematically predict the residual in the next. Autocorrelation, in which observations close together in time are correlated with one another, is particularly expected in legislative power data, where institutional structures are

inherently sticky as a country's parliamentary strength in one year is a strong predictor of its strength in the next year simply because formal institutions rarely change overnight. If autocorrelation is present and uncorrected, ordinary standard errors are artificially deflated. Thus, it produces t-statistics and p-values that overstate the precision of coefficient estimates and increase the risk of incorrectly identifying a statistically significant relationship where none reliably exists. To test for autocorrelation in the model residuals, this study applies the Durbin-Watson test, which ranges from 0 to 4, with a value of approximately 2.0 indicating no autocorrelation, values below 1.5 suggesting positive autocorrelation, and values above 2.5 suggesting negative autocorrelation.

Results

Table 2
ITS Models

ITS Models: Effect of Arab Spring on GCC Legislative Power (PPI Score)				
	Dependent variable:			
	PPI Score (0–1)			
	Model 1	**Model 2**	**Model 3**	**Model 4**
Time Trend (β_1: Pre-existing slope)	0.009**	0.009***	0.009***	0.009***
	(0.004)	(0.002)	(0.002)	(0.002)
Intervention/Post-2011 (β_2: Level change)	-0.011	-0.011	-0.009	-0.009
	(0.037)	(0.017)	(0.016)	(0.016)
Time Post-Intervention (β_3: Slope change)	-0.009	-0.009***	-0.010**	-0.009**
	(0.007)	(0.003)	(0.004)	(0.004)
Bahrain		0.039***	0.131***	0.132***
		(0.015)	(0.034)	(0.035)
Kuwait		0.174***	0.253***	0.254***
		(0.015)	(0.027)	(0.027)
Oman		0.075***	0.208***	0.206***
		(0.015)	(0.040)	(0.041)
Qatar		0.209***	0.174***	0.175***
		(0.015)	(0.020)	(0.021)
Saudi Arabia		-0.023	0.101***	0.102***
		(0.015)	(0.036)	(0.037)
Log GDP per Capita			0.138***	0.134***
			(0.044)	(0.047)
Oil Rents (% of GDP)			-0.001	-0.001
			(0.001)	(0.001)
Control of Corruption (Percentile)				0.0002
				(0.001)
Constant	0.171***	0.092***	-1.368***	-1.339***
	(0.027)	(0.016)	(0.475)	(0.491)
Country Fixed Effects	No	Yes	Yes	Yes
Corruption Control	No	No	No	Yes
Observations	114	114	114	114
R^2	0.072	0.810	0.833	0.833
Adjusted R^2	0.047	0.796	0.817	0.815

Note: Standard errors in parentheses.

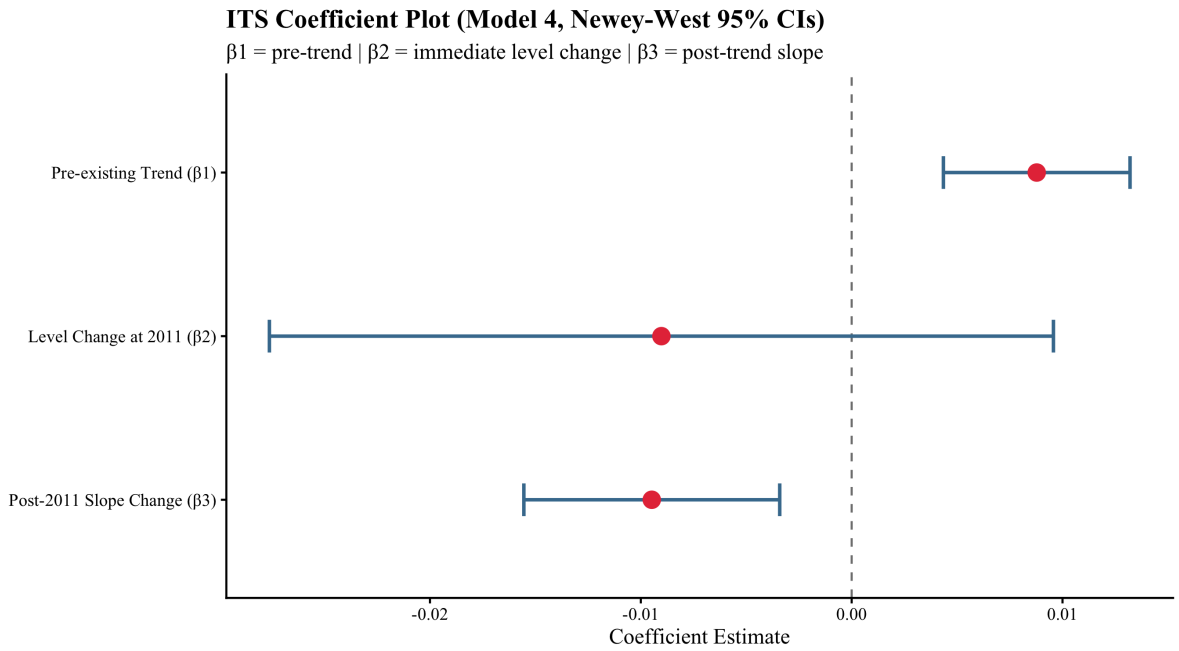
* p<0.1; ** p<0.05; *** p<0.01

Analysis

Using the cleaned dataset, the R code produces four iterative ITS models, each including additional variables. Model 1 includes only the underlying ITS time variables. Model 2 adds the Country Fixed Effects variables to the ITS design. Model 3 adds both the GDP per Capita and Oil Rent variables to the design. Finally, Model 4 adds the Control of Corruption variable in addition to all previous elements. The segregation of Control of Corruption from the other possible confounding variables was due to the availability of data, in which the data points were unavailable for the year 2001. As such, each country's 2002 values were imputed for 2001 as well.

Model 1 contains the fewest statistically significant relationships, which does not justify its dismissal. However, the adjusted R^2 value of 0.047 suggests the need for country fixed effects for a better model fitness. The adjusted R^2 of Model 2, 3, and 4 is close to 0.80 or above, indicating the models explain a high level of variation in the PPI. Although the control of confounding variables in Model 3 and 4 increases the adjusted R^2, it only does so by 0.021 and 0.019 respectively. The inclusion of Corruption Control in Model 4 does not positively affect the R^2 or adjusted R^2, its negative or lack of effect on model fitness signifying a need for removal or replacement.

Figure 1
ITS Coefficient Plot of Model 4



Due to the assessment of the models' fitness, we focus on Model 2, 3, and 4 to understand the relationship between the Arab Spring and the PPI within the GCC states. Within all the models, Timepre and Timepost have a significantly significant relationship with the PPI. Thus, the slope change in the PPI is correlated with time post-intervention and pre-intervention. The degree of significance for Timepost decreases from Model 2 to Model 3 and Model 4, but the nature of the relationship does not change. Timepre maintains a positively significant relationship with the PPI for all models. This relationship becomes negative following the intervention for Timepost. The negative coefficients do not show that the GCC states' PPI scores are decreasing but rather that the rate of growth decreased following the Arab Spring. Despite hopes that the protests would catalyze greater legislative capacity, the GCC states experienced greater expansion of their legislative capacities prior to the Arab Spring.

Regarding the country fixed effects, all the states included in the models except Saudi Arabia had positive significant differences from the PPI Score of the UAE. On average across 2001-2019 in all models, the other states within the GCC (except Saudi Arabia) had a higher PPI Score.

Saudi Arabia's coefficient becomes positive in Model 3 and Model 4, denoting the importance of controlling for confounding variables in this research. Also, it shows that economic factors rather than purely institutional ones are associated with the lower PPI Score of Saudi Arabia in Model 2. However, Intervention does not have a significantly significant relationship in any of the models, which indicates the change in the PPI during the Arab Spring was simply random.

Figure 2

PPI Score Over Time in the GCC States

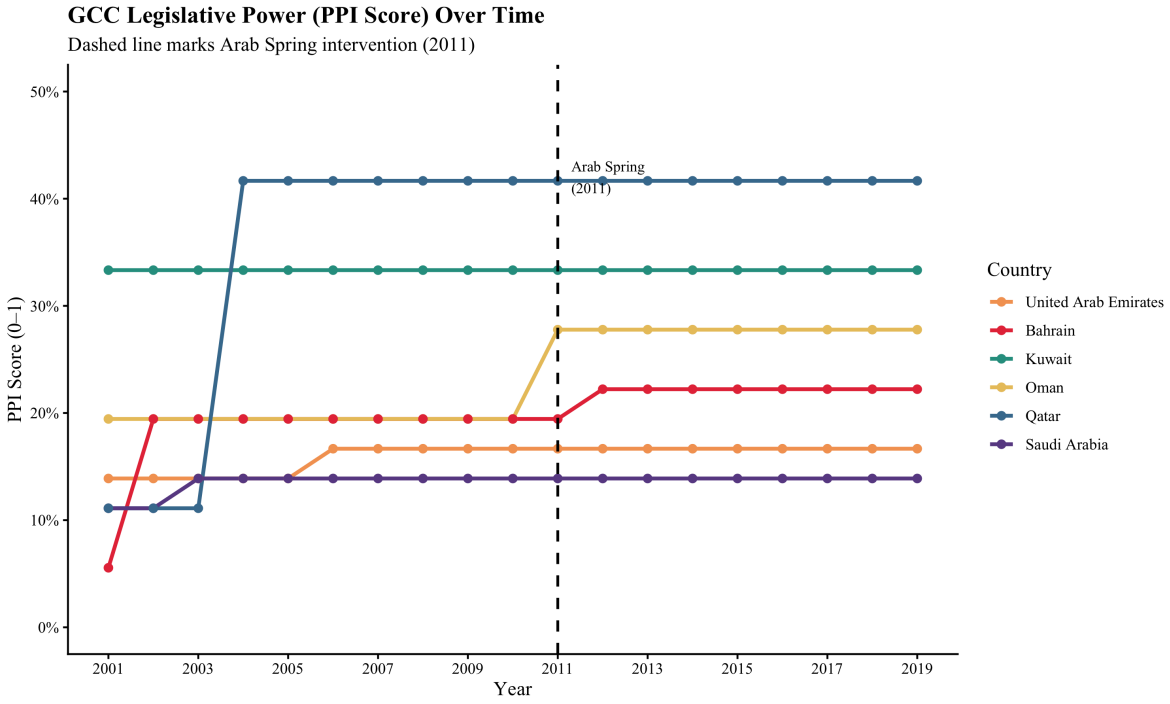


Figure 2 displays the GCC states' PPI Score from 2001 to 2019. Unlike the models, it includes the UAE, which only had a small growth in legislative capacity before the Arab Spring like Saudi Arabia. The minimal and singular change reinforces our claim that the UAE serves as an effective baseline for the ITS models. While Bahrain and Oman's scores rose in 2011 and 2012, the rates of which their scores increased did not significantly differ from previous changes over time. Likewise, the stagnation of changes across the entire GCC after 2012 suggests the possibility that the occurrence of the Arab Spring inhibited further reforms in the following years.

For each of the four model specifications, Durbin-Watson statistics ranged from 0.173 to

0.898, each well below the 1.5 threshold, with associated p-values significant at $p < 0.001$ in each of the models. Because these results confirm the presence of strong positive autocorrelation in the residuals of all specifications, further correction tests would be necessary before any causal conclusions can be drawn from the model output.

Conclusion

This research paper sought to determine to what extent the occurrence of the Arab Spring impacted the capacity of legislatures within the states of the GCC. To test this question, six countries were tested in an Interrupted Time Series design alongside additional external variables: Country Fixed Effect Baselines, GDP per Capita, Oil Rents as Percentage of GDP, and Control of Corruption. In Models 2, 3, and 4 of our ITS design, the produced R^2 values established that the strength of the model testing the relationship between Legislative Capacity and both the pre-intervention and post-intervention time periods was strong, indicating that time accounts for over 80 percent of the variation of changes to Legislative Capacity within these countries. However, while both those time periods were statistically significant with p-values less than 0.01, the intervention period representing the Occurrence of the Arab Spring was not statistically significant, having a p-value greater than 0.05 in every tested model. The additional independent variables chosen to test the hypothesis differed in statistical significance with both the individualized Country Fixed Effects and GDP per Capita being statistically significant in the model while Oil Rents and Control of Corruption were not. Thus, the true relationship between these variables and Legislative Capacity signifies that when the states within the GCC are compared on a baseline to each other and normalized GDP per Capita is accounted for, the rate of change in Legislative Capacity within these states align with general time trends. However, the Occurrence of the Arab Spring did not spur a noticeable change in the rate of change in 2011. Through this interpretation of the data, the model reaffirms existing qualitative literature on the limited effect of the Arab Spring for political reforms within the GCC, particularly to legislative capacity.

The conclusions derived from this study fall in line with our hypothesis. As time has passed, the understanding of the Arab Spring has evolved from debate over the levels of success

of democratization in the region to whether the Arab Spring has any lasting positive impact. The continued survival of the monarchies of the GCC highlights the underlying resilience of these ruling parties against reform. These countries are influenced by the actions of others and are unable to be analyzed in a vacuum.

Beyond this reaffirmation, the legislatures of the GCC warrant a more comprehensive study. The lack of comprehensive data for other possible confounding variables as well as the limited time range may hinder the examination of legislative capacity and the process of reform in these states. Several of these monarchies' legislative capacities have deteriorated in the last few years, which our model did not account for. Nevertheless, the PPI has demonstrated an effectiveness in translating qualitative analysis into quantitative results. A continuation of this research by expanding the scope through refining variables, extending the time range, and utilizing different methods of quantitative analysis would be beneficial to the underrepresented area of expertise of legislative capacity.

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This research paper was one of the few quantitative analyses of the Arab Spring. Despite its focus on quantitative methods, it provided a helpful examination of the most significant factors that tended to reduce the scale of sociopolitical destabilization during the Arab Spring. Additionally, the paper focused on creating a composite index that would allow for predictive models for social instability. Its methodology and evaluation of qualitative literature helped in the formation of our methodological approach

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This paper discusses the longevity of Arab monarchies as a regime type and possible paths forward and seeks to answer what are the specific conditions that support

the survival of this subtype of authoritarian regime. It underscores Samuel P. Huntington's "king's dilemma," which became an important idea in our literature review and evaluation of the Gulf monarchies' struggles.

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Chernykh, S., Doyle, D., & Power, T. J. (2017). Measuring Legislative Power: An Expert Reweighting of the Fish-Kroenig Parliamentary Powers Index. Legislative Studies Quarterly, 42(2), 295–320. https://doi.org/10.1111/lsq.12154

This article directly engages with the methodological limitations of Fish and Kroenig's Parliamentary Powers Index, arguing that the original instrument's equal weighting of all thirty-two binary indicators fails to account for the differential theoretical significance of different legislative powers. To address this, Chernykh, Doyle, and Power conducted an expert survey of 296 political scientists in 2014, using the

respondents' responses to construct a Weighted Legislative Powers Score (WLPS) that reweights each of the PPI's 32 indicators according to their assessed importance. The resulting index is applied to the same 158 national legislatures covered by the original PPI, allowing for direct comparison between the equal-weighted and expert-weighted scores. The article also publishes the full set of expert-assigned weight factors for all thirty-two indicators, enabling future researchers to construct alternative disaggregated measures of legislative power tailored to specific research contexts. This piece is directly relevant to the present study in two respects. First, it provides the primary methodological justification for this study's decision to reweight the PPI's indicators to better reflect the institutional context of Gulf monarchies, where certain dimensions of legislative power — particularly institutional autonomy and influence over the executive — carry greater theoretical significance than others. Second, Chernykh et al.'s critique of equal weighting validates the study's approach of assigning differential weights across the four GLPI dimensions rather than treating all indicators as equally informative.

Constitution of the Kingdom of Bahrain (2002). https://www.constituteproject.org/constitution/Bahrain_2017

Constitution of the State of Kuwait (1962). https://www.constituteproject.org/constitution/Kuwait_1992

Constitution of the United Arab Emirates (1971). https://www.constituteproject.org/constitution/United_Arab_Emirates_2009

Fish, M. S., & Kroenig, M. (2009). The Handbook of National Legislatures: A Global Survey (1st ed.). Cambridge University Press. https://doi.org/10.1017/CBO9780511575655

This book constructs and applies the Parliamentary Power Index (PPI), a standardized instrument for measuring the institutional strength of national legislatures across 158 countries. Fish and Kroenig develop the PPI from thirty-two binary indicators organized across four dimensions—legislative influence over the execu-

tive, autonomy from executive control, specified institutional powers, and internal organizational capacity—producing a composite score ranging from 0 to 1 in which higher values indicate greater legislative power. The index represents one of the most comprehensive cross-national datasets on legislative institutions available in the comparative politics literature and has been widely adopted in subsequent scholarship on democratization, executive-legislative relations, and institutional development. For the present study, Fish and Kroenig's PPI serves as the foundational measurement instrument for the dependent variable. Because the original index was designed for broad cross-national application across diverse regime types, this study employs a modified and reweighted version truncated to the subset of indicators most applicable to the institutional context of Gulf monarchies, where legislatures operate under greater structural constraints.

Fish, M. S. (Michael S. (2006). Stronger Legislatures, Stronger Democracies. Journal of Democracy, 17(1), 5–20. https://doi.org/10.1353/jod.2006.0008

Hawthorne, A. (2008, August 26). Qatar's New Constitution: Limited Reform from the Top. Carnegie Endowment for International Peace. https://carnegieendowment.org/sada/2008/08/qatars-new-constitution-limited-reform-from-the-top

Hurwitz, L. (1973). Contemporary Approaches to Political Stability. Comparative Politics, 5(3), 449. https://doi.org/10.2307/421273

Leon Hurtwitz, a Professor of Political Science at Cleveland State University, provides an accessible definition of political stability that applies to the Arab Spring. His paper is commonly cited in literature concerning political stability and its wide-ranging applications. Our research employs his definition.

Jamshidi, M. (2014). A Short History of the Arab World and the Arab Spring. In The Future of the Arab Spring (pp. 5–22). Elsevier. https://doi.org/10.1016/B978-0-12-416560-1.00001-3

This book provides the background of social and economic factors that led to the tensions surrounding the Arab Spring. The explanation is concise yet extremely

effective in describing the decades before 2011, including external and internal frictions. Once Jamshidi provides context of the Arab world, the paper then details the Arab Spring in countries that underwent the greatest changes.

Jolo, A. M., Ari, I., & Koç, M. (2022). Driving Factors of Economic Diversification in Resource-Rich Countries via Panel Data Evidence. Sustainability, 14(5), 2797. https://doi.org/10.3390/su14052797

Josua, M., & Edel, M. (2021). The Arab uprisings and the return of repression. Mediterranean Politics, 26(5), 586–611. https://doi.org/10.1080/13629395.2021.1889298

Lopez Bernal, J., Cummins, S., & Gasparrini, A. (2016). Interrupted time series regression for the evaluation of public health interventions: A tutorial. International Journal of Epidemiology, dyw098. https://doi.org/10.1093/ije/dyw098

This methodological tutorial, published in the International Journal of Epidemiology by researchers at the London School of Hygiene and Tropical Medicine, provides a comprehensive step-by-step guide to conducting Interrupted Time Series analysis using segmented regression. The authors begin by establishing the conditions under which ITS is an appropriate research design, emphasizing its suitability for evaluating population-level interventions implemented at a clearly defined point in time where randomized control is not feasible. The tutorial then walks through the full analytical pipeline: constructing the three core ITS variables, capturing the pre-existing trend, the immediate level change, and the post-intervention slope change, and addressing the methodological challenges unique to time series data—most notably autocorrelation, seasonal trends, and time-varying confounders. Lopez Bernal et al. also provide worked code examples in both Stata and R, supplying useful methodological references available for applied ITS work. While the piece is situated within a public health context, its methodological guidance is fully generalizable to social science applications involving discrete political events. For the present study, Lopez Bernal et al. serve as the primary methodological citation for the ITS design

itself, informing the model's variable construction, the decision to test formally for autocorrelation using the Durbin-Watson statistic, and the application of corrected standard errors to address serial correlation in the panel residuals.

Margolis, J. E. (2010). Understanding Political Stability and Instability. Civil Wars, 12(3), 326–345. https://doi.org/10.1080/13698249.2010.509568

The paper investigates a new understanding of political stability and instability. It provides an analysis of preexisting definitions and their deficiencies. Through the literature review, the paper comes to a new definition that is: political stability is the health of authority, resilience, legitimacy, and replacement in a political object. However, it did not seem applicable to the Gulf states. The in-depth critique of previous definitions led our research to use the one formed by Leon Hurwitz, who says political stability is the absence of violence and structural change.

Mezey, M. L. (1979). Comparative legislatures. Duke Univ. Pr.

Permanent Constitution of the State of Qatar (2003). https://www.constituteproject.org/constitution/Qatar_2003

Poulos, H. M., & Haddad, M. A. (2016). Violent repression of environmental protests. SpringerPlus, 5(1), 230. https://doi.org/10.1186/s40064-016-1816-2

This research paper studied environmental protests in relation to violent oppression using 175 cases and databases from Lexis-Nexis Academic and Factiva. One of their variables was GDP per capita, and the paper found that it was a primary predictor of violence. Within the GDP per capita variable, it coded each industry that was associated with the protest. Although the research focuses on environmental protests, the focus on violence can be applied to the Arab Spring.

Reuters. (2003, November 30). Saudi king grants new powers to 'parliament.' https://www.aljazeera.com/news/2003/11/30/saudi-king-grants-new-powers-to-parliament

Royal Decree No. 39/2011 on Granting Majlis Oman Legislative and Oversight Authorities, Pub. L. No. No. 39/2011 (2011). https://decree.om/2011/rd20110039/

The World Bank. (2021). Oil rents (% of GDP) (NY.GDP.PETR.RT.ZS) [Dataset]. https://www.worldbank.org/en/publication/changing-wealth-of-nations/data

The World Bank. (2024a). GDP per capita (current US$) (NY.GDP.PCAP.CD) [Dataset].

The World Bank. (2024b). Worldwide Governance Indicators [Dataset]. www.govindicators.org

World Bank Group. (2026). Control Of Corruption: Percentile Rank. World Bank Group. https://datacatalog.worldbank.org/infrastructure-data/indicator/a3671ba4-54cf-eb11-bacc-000d3a596ff0/control-of-corruption-percentile-rank

This web page from the World Bank and Infradata provides a description of Control of Corruption: Percentile Rank and how it fits within the Worldwide Governance Indicators. The detailed explanation of Control of Corruption allows our research paper to ensure our operationalization of variables is in line with the literature.