

Breaking the Mold? Why Ministerial Rotations Cannot Make Up for an Independent Government

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Lebanon's many overlapping crises require immediate and decisive political action to mitigate their fallout on the population. Political responses have always been slow—not only since the government under Prime Minister Diab has resigned in August 2020. Legislative production has historically been low in Lebanon. The average number of laws passed per year from 1990 until 2009 in Lebanon was 80.2 compared to 186.3 for a set of European countries.¹ Sluggish legislative response to changing environments or even crises has repeatedly been identified as a core reason for many of Lebanon's socio-economic challenges.²

The formation process of a novel government has now adopted the principle of “rotation,” aiming to change the party affiliations of ministers holding key ministries in order to “break the mold” and speed up reform.³ Over time, several governmental institutions have become deeply entrenched with political elites. Their bureaucracies have become “bastions of privilege” to leaders of political parties,⁴ which abuse their political power for political patronage by, for example, allotting employment to core supporters⁵ or appropriating procurement contracts for connected firms.⁶ These long-standing allegiances are assumed to have reduced the incentives for politicians, parties, and bureaucrats to change the status quo since they risk profits from such rent-seeking activities. Changing the affiliation of a minister is therefore supposed to “break the mold” and foster novel formation of interests within and across ministries that enable reforms that would not have otherwise been possible.

But can rotation facilitate reform? We have tested this hypothesis based on a novel dataset of legislative activity in an econometric model whose details can be found in the annex of this article. And by means of spoiling the key result, we answer this question with a resounding “no.”

Contrary to the narrative propagated by political elites, rotation of ministries does not increase ministerial productivity. We investigated the number of “significant” legislations⁷ passed by nine key ministries in all governments between 2005 and 2020, which includes 72 ministerial changes. We found that rotation *decreases* output of significant legislation, a result that is robust when accounting for the individual effects of governments,

¹ See Mahmalat and Curran (2020). Authors' calculation based on data of the “Comparative Agenda Project” and the Lebanese Official Gazette. Countries included: Belgium, Denmark, France, Hungary, Netherlands, Spain. Available at: comparativeagendas.net

² Eric Le Borgne, Thomas Jacobs, and Paul Barbour, “Lebanon: A Systematic Country Diagnosis” (Beirut, 2015), <http://documents.worldbank.org/curated/en/698161468179049613/pdf/97498-CAS-P151430-SecM2015-0202-IFC-SecM2015-0073-MIGA-SecM2015-0047-Box391476B-OUO-9.pdf>.

³ See, for example: <https://www.middleeastmonitor.com/20201107-lebanon-government-formation-stalled-over-christian-ministerial-representation/>

⁴ Reinoud Leenders, *Spoils of Truce: Corruption and State-Building in Postwar Lebanon* (Ithaca: Cornell University Press, 2012), 225.

⁵ Bassel F. Salloukh et al., *The Politics of Sectarianism in Postwar Lebanon* (London: Pluto Press, 2015).

⁶ Sami Atallah et al., “Public Resource Allocation in Lebanon: How Uncompetitive Is CDR's Procurement Process?,” *Lebanese Center for Policy Studies*, 2020, <http://lcps-lebanon.org/publication.php?id=359&category=1101&title=1101>; Ishac Diwan and Jamal Ibrahim Haidar, “Do Political Connections Reduce Job Creation? Evidence from Lebanon,” in *Crony Capitalism in the Middle East – Business and Politics from Liberalization to the Arab Spring*, ed. Ishac Diwan, Adeel Malik, and Izak Atiyas (Oxford: Oxford University Press, 2019), 119–45.

⁷ The data set is described in detail in Mahmalat (2020) ‘Assessing Policymaking in Data Poor Polities – Introduction of a new data set for Lebanon’, *International Development Planning Review*, 42(4), pp. 407-430.

ministries, and their budgets. However, the affiliation to political parties appears to matter, pointing to differences in the way political parties approach legislative production. Moreover, our results show that incoming ministers have even less output than the average ministry after rotations when they take over a portfolio that has been held by another party for more than one term before.

These results provide important clues about why rotations impact legislative activity. Based on our preliminary findings, we propose two explanations that have to be verified and qualified in further research. First, institutions experience “memory losses” following a rotation in the form of staff either leaving or obstructing the work of ministers by withholding information in order to prevent incoming administrations from reaping the benefits of previous efforts. These memory losses appear to depend on the extent to which outgoing political parties were willing and able to penetrate institutions with supporters over time by using public employment as a patronage tool. Simply put, institutions more lenient to a political party appear to make life hard for an incoming minister of another party. Second, incoming ministers face challenges to understand who to trust in a new institutional environment. As allegiances of civil servants to elites of political parties can trump those to administrative superiors, incoming ministers tend to slow down work until they fully understand which civil servants and contractors to trust in that they facilitate their work and priorities.

These findings cannot speak in favor of parties maintaining grip on particular ministries. The opposite holds true. Rotation cannot substitute for the formation of a competent government independent of party elites. Our results show that maintaining grip over a ministry can decrease its capacities in various ways, in particular as clientelist networks impact accountability of civil servants. In order to improve ministerial productivity, reforms are needed to increase transparency, such as by digitizing work processes, accountability, such as by strengthening merit-based criteria for performance evaluations and promotions, and meritocracy, such as by curbing the opportunities for parties for *ad hoc* hires that circumvent the Civil Service Board.

Possible solutions to Lebanon’s current multiple crises are well-known.⁸ The challenges are less one of technicalities, but of politics.⁹ Both the necessary technical approaches and expertise are readily available, yet political elites continue to face incentives to undermine state authority and appropriate institutional capacities for individual gains. Blaming ministerial affiliations for sluggish political responses is simply wrong. Rather, a government independent of the destructive influence of political parties and their elites, with a mandate for extraordinary legislative powers in certain policy areas and for a limited but predictable period of time, would be more promising.¹⁰ As long as established power structures remain intact in that ministers and their bureaucracies depend on party elites, no rotation of ministries is going to “break the mold.”

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⁸ Amer Bisat, “The Tragedy of Doing Nothing,” *Carnegie Middle East Center*, 2020, <https://carnegie-mec.org/diwan/83012>; World Bank, “Lebanon Economic Monitor - The Deliberate Depression” (Beirut, 2020), <http://documents1.worldbank.org/curated/en/474551606779642981/pdf/Lebanon-Economic-Monitor-The-Deliberate-Depression.pdf>.

⁹ Sami Atallah, Mounir Mahmalat, and Sami Zoughaib, “Hiding Behind Disaster: How International Aid Risks Helping Elites, Not Citizens,” *Lebanese Center for Policy Studies*, September 17, 2020, <https://www.lcps-lebanon.org/featuredArticle.php?id=337>.

¹⁰ Ziad Abu-Rish et al., “Lebanon Needs an Independent Cabinet with Legislative Authority,” *Lebanese Center for Policy Studies*, August 18, 2020, [http://lcps-lebanon.org/publications/1597676171-lcps-cabinet_legislation_aug_17_2020_mm_v4_\(2\).pdf](http://lcps-lebanon.org/publications/1597676171-lcps-cabinet_legislation_aug_17_2020_mm_v4_(2).pdf).

Appendix

This appendix describes the theory behind ministerial rotations and the technical details of our model. Section 1 provides a short review of existing literature and theoretical approaches and situates our findings in a broader context. Section 2 introduces our data, while section 3 outlines the empirical approach and results. Section 4 discusses mechanisms. Section 5 concludes.

1. Theory

The hypothesis that a change in the leadership of governmental institutions accelerates reform is widely discussed in the literature on the political economy of reform (Williamson, 1994; Drazen, 2000; Tompson and Price, 2009). A government which just entered office is expected to face fewer constraints to initiate reform as it enjoys greater legitimacy than its predecessor (Haggard and Webb, 1994). Alesina et al. (2006), for example, find that reform successfully leading to macroeconomic stabilization is more likely in the immediate aftermath of elections.

This argument relates to the moment in which governments initiate reform processes. Reform, however, is a lengthy process that includes multiple political and administrative hurdles that introduce a time lag between the elaboration and implementation of reforms. Reforms become more difficult to implement the more complex the institutional and voting requirements become (Chaqués-Bonafont, Palau and Baumgartner, 2015) or the higher the degree of political fractionalization is, i.e. the number of political actors involved (Tsebelis, 2002; Mahmalat and Curran, 2020). Empirical evidence for the hypothesis is accordingly mixed. Høj et al. (2006), for example, find that structural reforms are introduced by more “mature” governments—governments that are more than two years old—presumably reflecting the time needed to overcome these political and administrative obstacles. Other authors find no relationship between the time in office of a government or party with the occurrence of reform (Pitlik and Wirth, 2003; Wiese, 2014; Waelti, 2015).

On a bureaucratic level, previous research points to a negative effect of ministerial rotations in line with our results. Frequent ministerial changes are commonly thought to prevent ministers from developing expertise needed to lead a bureaucracy and therefore to become productive (Rose, 1987). Studies on cabinet reshuffles in the United Kingdom, for example, find that frequent reshuffles have a negative effect on governmental effectiveness and cripple efforts for long-term reform (Political and Constitutional Reform Committee, 2013; Sasse *et al.*, 2020). Also, frequent rotations of bureaucrats is found to have negative effects on their performance due to short time horizons and lack of experience (Cornell, 2014).

The underlying argument of these works posits that ministerial rotations undo the informational gains that longer ministerial tenures can bring. This argument, however, poses the question on why ministers would ever be changed. Scholars have therefore paid attention to the strategies of prime ministers to rotate or those of bureaucrats to position themselves vis-à-vis the incumbent minister. Indriðason and Kam (2008), for example, argue that prime ministers and political leaders leverage reshuffles to limit agency losses that emanate from the delegation of power to ministers and bureaucrats. The underlying notion of political contestation is that bureaucrats, ministers, and leaders inherently follow mixed motives and incentives, depending on the electoral successes of parties and the ambitions of bureaucrats. Huber and Shipan (2002) find that cabinet turnovers result in shorter laws which, in their argument, results from a higher degree of delegation from ministers to bureaucrats that introduces agency-risks. Huber (1998) takes this argument on the partisan affiliation of ministers, arguing that instability in the affiliation of a ministerial portfolio makes it difficult for a minister to obtain relevant information for policy development and implementation.

Cabinet instability, that is, the uncertainty about the *timing* of the replacements of ministers, introduces an additional set of challenges for bureaucrats. Huber and Lupia (2001), for example, introduce a model of political delegation from ministers to bureaucrats. The model identifies cases in which bureaucrats adopt suboptimal policies as they get trapped into the “bureaucrats’ dilemma,” which is the fear that own efforts are being unrewarded or even punished when an incumbent minister is replaced unexpectedly.

Our findings add to existing literature in three important ways. First, to our knowledge we are the first to measure the effect of ministerial rotations on legislative production. Previous research has largely measured output in the form of reform indices which prevents detailed insights into the institutional mechanisms by which reform happens (Babecký and Campos, 2011; Mahmalat and Curran, 2018). Other empirical work relies on more indirect measures of productivity or performance, such as budgetary indicators (Huber, 1998) or aid programs (Cornell, 2014), while much of the remaining work is theoretical (Huber and Lupia, 2001; Indriðason and Kam, 2008). Second, existing literature examines the effect of ministerial rotations independently from political parties and discusses how new ministers change the performance of bureaucracies based on the incentive structures of prime ministers and bureaucrats (Huber and Shipan, 2002). Our analysis seeks an explanation for the variation in legislative output based on the strategies of political parties. Lastly, much of the literature on cabinet reshuffles and instability has focused on well-established parliamentary democracies. By focusing on Lebanon, a semi-presidential consociational democracy with a highly fractionalized party system, we provide evidence for the workings of political institutions in developing countries with weak bureaucracies. Our results qualify the role of the bureaucracy and show how weak bureaucratic structures—in terms of a significant dependency of bureaucrats and ministers to party leaders—determines the extent to which rotations can undermine legislative productivity.

2. Data

To test the hypothesis that rotation of ministries accelerates reform we leverage a novel dataset on legislative activity, introduced in Mahmalat (2020). The data includes all legislative texts that are “significant”, defined as those texts that introduce changes in the legislative environment that structures social and economic life and are potentially relevant for legal appeals. This approach singles out those legislative texts that require the mobilization of political will and notably excludes less meaningful legislations, such as corrections of spelling mistakes, naturalizations of individuals, or appointments.¹¹ Legislation that fulfills these criteria comes most closely to the notion of “reform,” defined as a change in the legislative environment that goes beyond day-to-day policy management (Alesina, Ardagna and Trebbi, 2006). The dataset reflects the total count of significant legislation categorized into 32 different policy areas. It includes all significant laws, decrees, and resolutions issued by the parliament, the council of ministers, and the ministers respectively.

Our analysis focuses on the period between 2005 and 2020, starting from Fouad Siniora’s first government after the general elections that took place after the “Cedar revolution,” marking the end of Syrian occupation. This focus takes into account that the nature of political exchange pre- and post-Cedar revolution in 2005 has changed significantly (El-Husseini, 2012) and new political parties and elites have emerged, which increased political fractionalization and the distribution of political power (Makdisi and Marktanner, 2009; Mahmalat and Curran, 2020). This focus encompasses eight governments, including the government under Hassan Diab.¹²

Figure 1 shows the dispersion of legislative texts across policy areas for each government. The 32 policy areas have been summarized in seven supercategories for ease of visualization. As the capacity of governments to attend to changing environments is limited (Jones and Baumgartner, 2005), the dispersion of legislative texts among policy areas broadly reflects governmental priorities. Notably, Hassan Diab’s government has placed most of its attention on managing the fallout of the economic and financial crises that began in 2019 as more than 57% of all legislative texts were related to finance and the economy. The governments under Fouad Siniora up to Najib Mikati, conversely, have placed much more emphasis on the management of public lands and buildings, that is, granting concessions to real estate developers or the sale of public lands.

¹¹ This is not to imply that legislation that does not change a legislative environment could *not* sometimes require significant political bargain. Appointments of key posts in public administration, for example, have repeatedly been a major obstacle to political collaboration. However, legislative texts that publish such decisions, by themselves, do not fall under the umbrella of reform since they do not change the way institutions operate. Rather, the appointed officials will issue the texts that eventually change legislation.

¹² The dataset includes legislation for Hassan Diab’s government until end of October 2020.

Figure 1: Distribution of political attention per government in terms of significant legislation per policy area

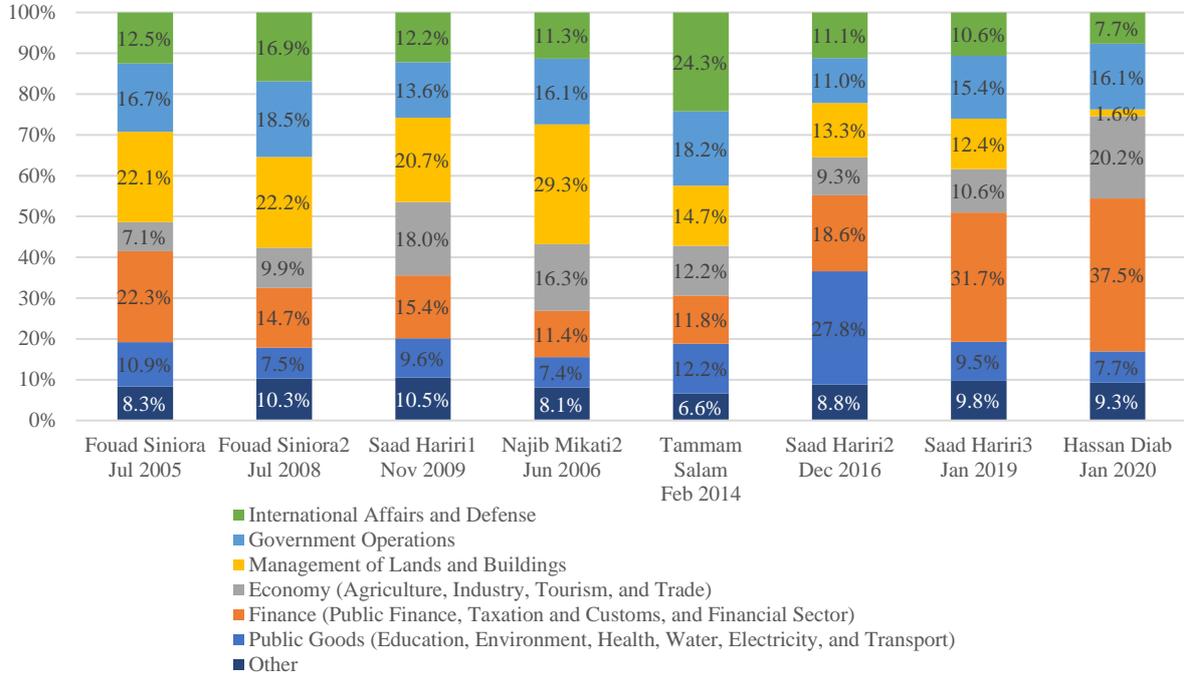
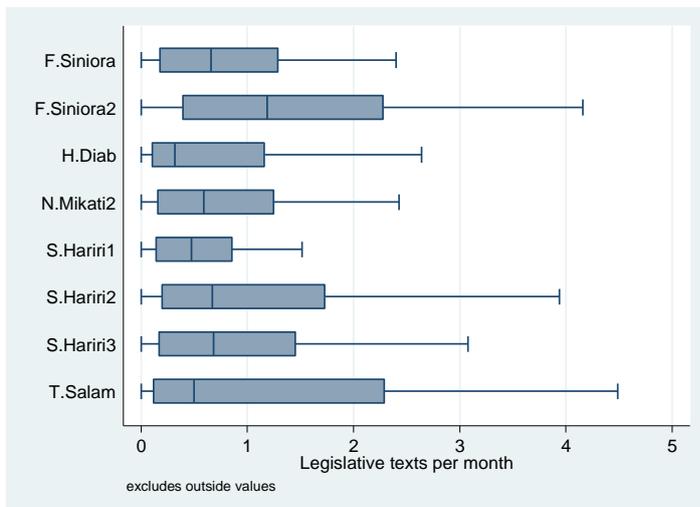


Figure 2 shows the average legislative productivity per month per government. The graph shows box plots that indicate the median in the middle and the second and third quartile of observations in the left and right box, while the whiskers represent the first and fourth quartile. Note that this view includes times governments serve as caretakers. The governments of Hassan Diab as well as the first of Saad Hariri have been the least productive in terms of significant legislation with a median of 0.3 and 0.4 and a mean of 0.8 and 1.1 respectively, while the second government under Fouad Siniora was the most productive one with a median of 1.2 and a mean of 2.2 significant legislative texts per month.

Figure 2: Average legislative productivity per government per month



Note: Middle line represents median, boxes the 2nd and 3rd quartile observations, whiskers 1st and fourth quartile observations; outliers omitted.

In order to single out the effect of rotation on legislative productivity, the analysis further concentrates on nine key ministries, notably energy and water, interior, economy and trade, defense, agriculture, foreign affairs, industry, finance, and justice. Two reasons determine this choice. First, they correspond to important policy areas in which reform has been contentious, given the context of socio-economic developments in the country. This selection notably includes the four so-called “sovereign” ministries—interior, defense, finance, and foreign affairs—which are endowed with major authorities¹³ and are a particular focus of contemporary debates about the importance of rotation. Second, they correspond to the organization of the dataset itself and allow a unique identification of a text within a particular policy area to a specific ministry.

Table 1: Summary statistics of legislative activity per government

Government	Mean	Standard Deviation	Number of Ministries Observed	Number of Texts of Selected Ministries	Total Number of Texts	Share of Total
F.Siniora	98.8	159.1	9	889	1,493	59.5%
F.Siniora2	51.2	73.8	9	461	729	63.2%
H.Diab	22.9	35.6	9	206	248	83.1%
N.Mikati2	80.1	94.5	9	721	1,279	56.4%
S.Hariri1	55.0	68.0	9	495	706	70.1%
S.Hariri2	75.6	119.8	9	680	1,277	53.2%
S.Hariri3	34.8	63.4	9	313	461	67.9%
T.Salam	126.0	137.0	9	1,134	1,575	72.0%
Total	68.0	101.7	72	4,899	7,768	63.1%

Three notes are important to make for the interpretation of this data. First, the observed allocation of legislation to ministries is a necessary but not sufficient condition for the legislative production of a particular minister. While texts that appear in one of these nine policy areas have all been elaborated by a particular minister, collaborations across ministries can lead to texts that carry the signatures of multiple ministers and eventually appear in different policy areas. For this research, we omit such collaborative texts and focus on the ones that can be uniquely identified to a specific minister as one cannot observe which minister or administration took the lead and devoted resources to the elaboration of the text. These additional texts, however, are unlikely to affect our results. First, legislative production of these nine ministries represents up to 83% of total legislative production under the mandate of a particular government, or 63% in total. Second, extensive reviews of the dataset in other policy areas indicate no systematic bias among ministries to be more or less likely to engage in collaborative projects. Third, we are interested in the core functions of ministers and their administrations to single out the effects of rotations on bureaucracies.

Second, the numeric count of legislative texts, even after having been filtered for significant texts, might undervalue the resources that went into complex laws that alter the legislative environment. These texts similarly occur as one observation—more simple decrees or resolutions for instance—in our dataset. However, the share of laws to decrees and resolutions is low with only about 8.3% on average since 2005. Our data therefore says less

¹³ These ministries are contentious as they control important state functions and security institutions. The interior ministry controls the internal security forces and customs, the defense ministry controls Lebanon’s armed forces, while the foreign ministry controls the general security and the diplomatic corps. The finance ministry moreover has almost discretionary powers in blocking or facilitating reform due to its budgetary authorities. These ministries also control among the highest budgetary expenses, with defense having the largest budget, interior the third, and finance the fifth largest budget.

about the extent to which the work of a minister has actually changed the legislative environment, or the extent to which legislation has been implemented in practice. Rather, it reflects the average productivity of a ministry as a bureaucratic entity.

Third, our data, by design, remains silent on the normative implications of legislative activity. We cannot determine with certainty whether a particular text serves extractive purposes or aims at welfare improvements, that is, whether it is “good” or “bad.” Rather, our concern is the extent to which a bureaucracy utilizes its resources, both in terms of human capital and financial, to govern.

Our key independent variable is a dummy for instances of rotation of parties that control a ministry. Since 2005, Lebanon experienced nine government changes for a total of 168 ministerial positions. We find that many of these portfolios have been held by individual parties for consecutive governments (table 2). For example, the ministry of energy and water has been held by the Free Patriotic Movement for three consecutive governments, while the ministry of finance has been held by the Amal movement for four consecutive ones. More than half of the portfolios in the cabinets between 2005 and 2020 were occupied by the same party for two or more consecutive terms. Within our focus on the nine ministries, we accordingly record 72 observations that include 42 instances of rotations.

Table 2: Instances of rotations in Lebanese cabinets after 2005

	H.Diab	S.Hariri3	S.Hariri2	T.Salam	N.Mikati2	S.Hariri1	F.Siniora2
Agriculture							
Culture							
Defense							
Displaced							
Economy and Trade							
Education							
Energy and Water							
Environment							
Finance							
Foreign Affairs							
Industry							
Information							
Interior and Municipalities							
Justice							
Labor							
Public Health							
Public Works and Transport							
Social Affairs							
Telecommunications							
Tourism							
Youth and Sports							

Notes: Red squares indicate instances of rotation; excludes state ministries.

3. Results

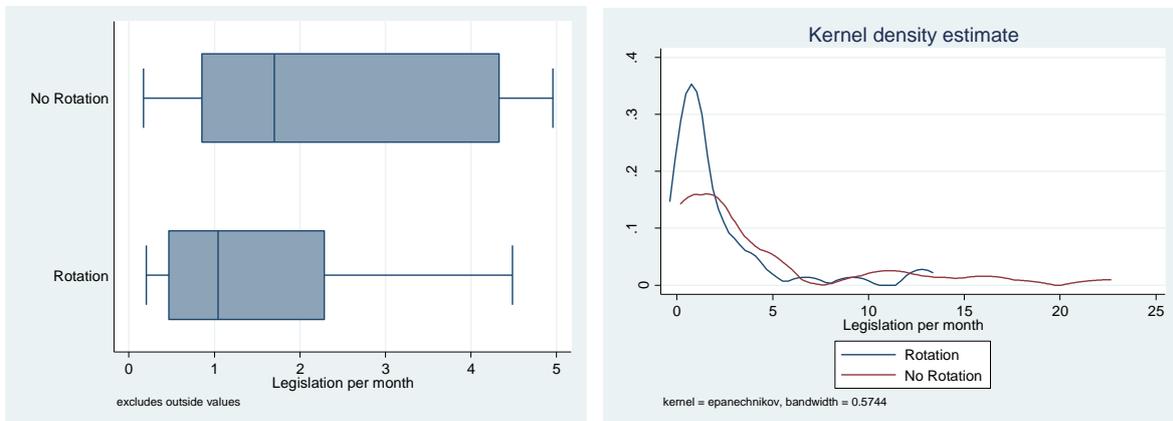
We start our analysis with a simple means test of the two sets of observations, the ministries with and without rotation. Table 3 shows summary statistics while figures 3 a and b show the distribution of observations within the two groups in a box plot and a kernel density function. Both the means and medians of the two samples are lower after rotations. The box plot further shows a larger distribution of observations in the third quartile. A

kernel density estimation shows that ministries that have been held by consecutive ministers have a higher likelihood of experiencing above average legislative activity and therefore show the characteristics of a negative binomial distribution.

Table 3: Summary statistics of rotated vs. non-rotated ministries

Rotation	Mean	Median	Standard Deviation	Minimum	Maximum	N
No	4.38	1.70	5.75	0.17	22.67	30
Yes	2.17	1.04	3.01	0.21	12.80	42
Total	3.09	1.29	4.46	0.17	22.67	72

Figure 3 a and b: Box plot and kernel density estimations of samples after rotation and without rotation



While the average lower production of significant legislative texts runs counter the narrative that rotation should increase productivity, several factor could influence this result. We therefore deploy a regression analysis to account for several factors that can be correlated with this variation. We run a negative binomial regression estimation, rather than a Poisson model, as the variance of the dependent variable is greater than the mean and therefore shows overdispersion. Our regression follows the following model

$$Y_{i,j} = \alpha + \beta_1 R_{i,j} + \beta_2 \log budget_{i,j} + \beta_3 gov_i + \beta_4 m_j + \beta_5 aff_{i,j} + \varepsilon$$

where Y is the output of significant legislative texts for government i of ministry j . R denotes our key independent variable of interest, a dummy variable that takes the value of 1 whenever a ministry rotated and the respective minister changed the affiliation of a party. gov and m denote government and ministry fixed effects, which capture variation pertaining to other potential confounding variables, such as the length of a government serving as caretakers and ministry specific characteristics. We use the White-Huber sandwich estimator to calculate robust standard errors in order to account for model misspecifications. The model takes into account the opportunity of each government to elaborate legislation by subjecting the dependent variable to its exposure in months that a government was in office.

To qualify our results, we introduce two additional controls. First, the variable $\log budget$ comprises the log of estimated expenditures of each respective ministry in the first full year of a governments' term as reported in the public budget in order to control for the possibility that a change in available resources affects the capacities to hire personnel or commission the elaboration of legislation. Second, we introduce party fixed effects, aff , to account for an incoming ministers' affiliation to different parties. This variable reflects that political parties may have different incentives or strategies to use a rotation as an opportunity to garner political or economic gains.

Table 4 presents the results of our model. In the basic model the production of significant legislation after rotations decreases. For each rotation, the expected log count of the number of significant legislations decreases by ~0.29, or about 0.5 legislative texts per ministerial term on average. The coefficient barely misses significance at the 1% level, which does not change as we control for the budget each minister has available. As expected, the available budget of a ministry is positively associated with the number of legislation, even though the coefficient is not statistically significant. The significance of the rotation variable drops only when we include party fixed effects, suggesting that there are differences in the way political parties work on legislation after rotations.

Table 4: Regression results

	Model 1	Model 2	Model 3
Rotation	-0.28** (-2.40)	-0.29** (-2.40)	-0.24 (-0.72)
Log Budget		0.05 (0.55)	
constant	0.65*** (3.19)	-0.33 (-0.18)	-0.52 (-1.49)
Government FE	Yes	Yes	No
Ministry FE	Yes	Yes	No
Party FE	No	No	Yes

*Notes: Dependent variable is the number of significant legislations per ministry to the exposure of the months in office; Regression model uses robust standard errors; Table shows beta coefficients and t-statistics in parentheses; Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.*

4. Discussion

The strong negative correlation of ministerial rotation with the production of significant legislative texts runs counter the narrative that changes in the political control of a ministry would enable reform. It is only when we control for the affiliation of ministers to political parties that the coefficient for rotations becomes insignificant. Note that, strictly speaking, these results establish correlations, not causation. The causal mechanisms by which rotations impact legislative activity have to be verified and specified in qualitative work as alternative model specifications for causal inference, such as differences-in-differences models, are infeasible in this instance.¹⁴

However, endogeneity—reversed causation in which the characteristics of a ministry impact the likelihood of rotation—is of limited concern. If endogeneity was a problem, political elites must have bargained the allocation of ministries in the process of government formation over the *anticipated* productivity of a ministry and rotate those in which lower output could be expected. This seems implausible. First, the kind of legislation we observe is unlikely over negotiation among elites in the bargaining process for the next cabinet, the allocation of ministries, and its policies. Instead, we mostly observe the work “behind the front lines” that require planning and resources of ministries and are necessary to effectively govern a country but rarely make headlines. While our data does include several more salient laws, these are only few and therefore negligible compared to the number of other significant legislations in the form of decrees and resolutions we observe. Second, high degrees of political instability make forecasting of political events difficult even for political actors, which applies to salient laws and even more so to lower level administrative work (Mahmalat and Curran, 2020). Third, as ministries become “bastions of privilege,” leaders and ministers unlikely constrain activities that pertain to their “preroga-

¹⁴ Difference-in-difference models would be preferred for causal inference but are infeasible as this context for two reasons. First, the parallel-trends assumption cannot be verified. The variation of the dependent variable is large, while ministries rotate frequently. Second, focusing only on one instance of government formation or even rotation would require inference based on only 18 observations (two times nine ministries in our dataset). We therefore resort to mixed-methods inference to verify and qualify the causal mechanisms with interviews of experts, that is, ex-ministers and high-ranking bureaucrats.

tives” (remembering that our dataset includes legislation that is directly attributable to one minister) by elite-level commitments that are hard to enforce *ex post*.

Our results point to two mechanisms which require further verification and more in-depth analysis in future work. The first is related to institutional mechanisms which induce agency-risks between incoming ministers and the ministry’s staff. The second relates to the strategies and incentives of political parties. This section is informed by qualitative interview evidence in a series of expert interviews with (ex-)ministers, high-ranking bureaucrats, Lebanese parliamentarians, and high-level party officials. Some of these interviews were conducted by the author for previous work published in Mahmalat and Curran (2020).

First, the reason why ministries lose a part of their “memory” after rotations relates to agency-risks. Bureaucracies generally rely on competent staff in order to generate output while more complex projects require a relative degree of independence from political interference when these projects overstretch the term of ministers in office. As ministers enter institutions, they form teams to support their work and agenda. However, to the extent parties penetrate institutions and become entrenched over time, they gradually influence the staffing of the institution not only for contractual staff and advisers that can be replaced relatively quickly, but also for followers among civil servants that get discretionary promotions (Salloukh, 2019).

Discretionary staffing decisions make ministries and other institutions to what Reinoud Leenders called “bastions of privilege for supporters” in which bureaucrats report to party heads rather than their superiors and ministers (2012, p.225). Our interviews indicate that, depending on the services a ministry offers, a significant proportion of a ministry’s staff can be recruited on an ad hoc manner by averting the hiring procedures set in place by the Civil Service Board, the government body tasked with recruiting civil servants. These employees are either recruited and paid directly by a political party, are in a “hybrid” employment relationship with ministries or are part of the “army of consultants” that can extend a ministers’ team.

In such environments, incoming ministers find it difficult to know how to navigate the trust and work relationships of their team and skepticism as to whom to trust tends to slow down work. New incoming ministers from other parties face a tradeoff when attempting to form their teams. Bureaucrats loyal to opposing parties might obstruct their work while delegating work to bureaucrats can induce agency-problems as the minister and their bureaucrats can pursue different objectives (Huber and Shipan, 2002). Replacing them with staff more loyal to the incoming minister could thereby facilitate productivity. However, the more staff the incoming minister exchanges, the more the institution suffers from memory losses as outgoing bureaucrats take their institutional memory and experiences of ongoing projects with them.

This mechanism finds support in our model specifications. We rerun the regression model but include a categorical variable as key independent variable that takes the values of 0 for non-rotations, 1 for rotations that follow only one term of the previous party, and 2 for two or more terms by the previous party. Table 5 shows that those rotations that follow incumbents after two or more terms drive a large proportion of the variation. Ministries having rotated after two or more terms decrease the log count of significant legislation vis-à-vis the reference of the no-rotation group by -0.48, or 0.33 texts less on average per ministry and term. At the same time, ministries rotating after only one term still enact less legislation than the reference group, but the coefficient loses significance. This suggests that institutions that have a longer exposure to political entrenchment face higher memory losses and therefore take more time to become productive, an interpretation in line with the explanations from expert interviews.

Table 5: Regression results

	Model 4	Model 5
No rotation	~	~
Rotation after 1 term	-0.2 (-1.5)	-0.2 (-1.52)
Rotation after >2 terms	-0.48*** (-2.6)	-0.51*** (-2.61)
logbudget		0.07 (0.9)
Constant	0.68*** (3.29)	-0.69 (-0.46)
Government FE	Yes	Yes
Ministry FE	Yes	Yes
Party FE	No	No

*Notes: Dependent variable is the number of significant legislations per ministry to the exposure of the months in office; Regression mode uses robust standard errors; Table shows beta coefficients and t-statistics in parentheses; Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.*

The second mechanism relates to the apparent influence of political parties on the amount of legislative production. As model 3 in table 4 indicates, controlling for the affiliation of ministers to political parties largely captures the variation of legislative production and renders our rotation variable insignificant. This suggests that individual characteristics or strategies of political parties explain variation in legislative activity. This finding resonates with previous research that has identified several areas in which the strategies of political parties explain variations in political and economic outcomes in Lebanon, such as healthcare (Cammett, 2014, 2015), employment (Corstange, 2016), or local governance (Parreira, 2020).

We can think of two ways in which this can happen. First, the above-mentioned memory losses can be used strategically by the outgoing party as a means of political contestation. Important documentation and human capital can deliberately be withdrawn, destroyed, or hidden to obstruct the work of incoming ministers. Lack of digitization facilitates opportunities for obstruction as physical documentation can more easily be withdrawn. External consultants, often paid by parties or connected individuals¹⁵, can be particularly detrimental to institutional memories when they leave the regular administration unaware of ongoing projects upon their departure.

But incoming parties too might find varying rationales to use their discretionary power to “start all over” and replace bureaucratic personal, abandon old projects, and launch new ones that are more visibly connected to the incoming party. Yet both of these rationales likely depend on the degree of affiliation between the incoming and outgoing party. Strongly affiliated parties might find fewer incentives to obstruct the works of incoming or outgoing ministers.

Alternatively, however, it can suggest that some parties have a higher inclination to use their mandate to be *more* productive than other parties. In this world, the prevalent mechanism is not the incentive to obstruct legislative production, but the motivation of parties to garner political and economic gains from legislative activity rather than from abusing the public administration as a patronage tool. More research is necessary to explore the possible influence of political party strategies to identify their influence on legislative production.

¹⁵ Each minister is allowed to recruit only one advisor to the tune of 3 million Lebanese Pound (previously 2,000USD) on the budget of the ministry.

5. Conclusion

Rotation does not facilitate reform, at least not by means of increasing ministerial productivity of significant legislative texts. While further research is necessary to qualify the results presented in this article and further specify the mechanisms by which rotations affect legislative output, at a very minimum our results show that rotations do not facilitate legislative activity in Lebanon's fractionalized polity. Importantly, it is not rotations themselves that decrease legislative productivity. Rather, this reduction is conditional on the extent to which parties had a chance to penetrate these institutions before. Lower legislative production is thereby another way by which political entrenchment and patronage infringe on political and economic outcomes in Lebanon.

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