

Challenging the Loyalty-Competency Trade-Off in Autocratic Cabinets

A quantitative study analysing competency dynamics of
cabinets in autocratic regimes



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Abstract

Even autocrats are forced to rely on their political allies to remain in power. Ministers make up a considerable share of these allies in any political regime, and their competency can both aid and threaten the incumbent autocrat's rule. Consequently, the study of how autocrats balance the trade-off between loyalty and competence in their cabinet appointments is of great importance when aiming to understand the dynamics of autocratic rule. One strain of the existing literature argues that leaders in autocracies reward competence less than democracies. Scholars supporting this argument claim that autocrats will replace competent ministers with less competent ones over time, as the more competent ministers are less likely to be loyal to the autocrat. This competency can be defined as political competency, measured by ministers' political experience, and technical competency, measured by ministers' education.

Challenging this proposed narrative, I argue that autocrats value *technically* competent ministers, and will not replace these subordinates as their time in power increases. The case of *politically* competent ministers, however, is more complex. To analyse how competency levels of cabinets change under the rule of an incumbent, I leverage newly collected data on 45 autocratic countries between 1966 and 2020 from the novel Paths to Power dataset. In contradiction with the theoretical literature on the loyalty-competency trade-off, I find no systematic replacement of technically competent ministers with less competent ones. My analyses reveal that, on average, the share of politically competent ministers in autocratic cabinets decreases over time under the same incumbent. In conclusion, autocrats seem not to fear technically competent ministers, but the preference for politically competent ministers is more complex and regime-dependent. My findings move the literature forward by highlighting the importance of disaggregating the concept of competency and the need for further theoretical development on autocrats' personnel preferences.

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All errors are my own.

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R-script available upon request.

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Chapter 1

Introduction

Although autocratic regimes differ in many ways, they share one important feature: no dictator can rule alone (Bueno de Mesquita 2011). The autocrats rely on a winning coalition that consists of subordinates who can contribute greatly to the leader's ability to stay in power, but they are also the ones who are best able to remove said leader from power (Geddes, Wright, and Frantz 2018). Some autocratic leaders only manage to stay in office for a short period of time, like Pedro Lascuráin who was the president of Mexico for about 45 minutes. Other leaders are able to stay in power for several decades, like Sultan Qaboos of Oman who stayed in power for almost 50 years (Nyrup and Bramwell 2020). While Sultan Qaboos died on the throne, a large number of autocratic leaders are removed from power through coups (Ezrow and Frantz 2011).

The type of people the autocrat chooses to surround himself with can greatly influence his chance of remaining in office and the type of policies he chooses to pursue (Zakharov 2016; Weeks 2012). Autocrats that are surrounded by civilian political elites have been shown to be less likely to engage in interstate conflict, while autocrats that are surrounded by military officials or yes-men who are unwilling or unable to constrain the autocrat are more likely to engage in interstate conflict (Weeks 2012). Some scholars argue that Putin's decision to invade Ukraine can be partially attributed to the fact that the people he surrounds himself feared the repercussions of objecting to his policies¹ (Gomza 2022; Barany 2023). When autocrats are ousted in coups, the following regimes are often both illiberal and unstable, resulting in civilian suppression and suffering, as well as reduced or negative economic growth that makes the lives of ordinary people even more challenging (Koehler and Albrecht 2021; Fosu 2002). The people surrounding the autocrat can influence important policy decisions and political outcomes that have real life im-

1. In this text I refer to dictators with the male pronouns, as all the autocrats in modern time have been male.

pact on civilians both within and outside the regime, and this is why we need to study this group of people more.

Understanding how dictators make their choice of subordinates can help us better understand the inner workings of autocracies. While some authors have argued that autocracies tend to hire more competent bureaucrats and cabinet members (Bell 2015), others have argued that autocrats will prefer less competent ministers over more competent ones (Zakharov 2016; Egorov and Sonin 2011; Frantz and Kendall-Taylor 2014)². These authors argue that more competent ministers are both more likely to stage a coup against the sitting leader and less invested in keeping the current leader in power.

Autocrats thus face a loyalty-competency trade-off when choosing their subordinates (Zakharov 2016). Competent ministers can help run the government successfully and better generate rents for the autocrats, but they are also more likely to successfully stage coups. If the autocrat removes all the competent ministers, he might be safeguarded against palace coups, but might not stand a chance against external threats of invasion from other countries (Pilster and Böhmelt 2011). Building on these strands in the literature, this paper asks the following question: *How do the competency levels of cabinets in autocracies change over time under the same ruler?*

The independent variable in this study is the different leaders' years in power, while the dependent variables are different measures of competency. I rely on data from the newly collected Paths to Power dataset that will eventually have biographical information such as education level, previous work experience and political experience for all cabinet members in 126 countries from 1966 to 2021 (Nyrup, Knutsen, and Langsæther 2022). In this paper I include data on the 45 different autocracies, which includes all autocracies that have been coded by the time of writing of this thesis³.

The contribution of this paper is twofold. The first contribution is that I expand the scope of the existing research. The new dataset employed in this paper is the most extensive of its kind (Nyrup, Knutsen, and Langsæther 2022), both in terms of number of elites coded and the level of detail in the biographical information included. I have been part of the data collection process since the beginning of the project, and am the first to use the data in an empirical study. Other datasets that have coded similar types of information are either limited to regime-leaders (such as Archigo dataset (Goemans, Gleditsch, and Chiozza 2009), regions (e.g. Alexiadou

2. I refer to ministers, cabinet ministers and cabinet members interchangeably.

3. Of these 45 countries, I have coded 18. A complete list of all countries included in this study can be found in Appendix C.

and Gunaydin 2019; Raleigh and Wigmore-Shepherd 2022) or shorter time periods (Gerring et al. 2019). The Paths to Power dataset has both a wider geographical and temporal scope, which allows us to investigate questions related to political elites on a much larger scale.

Previous empirical work on the loyalty-competency trade-off has either been single-country qualitative or quantitative studies (Aaskoven and Nyrup 2021; Bai and Zhou 2019; Katouzian 1998; Hartlyn 1998) or regional quantitative studies (Lee and Schuler 2020). With the novel Paths to Power dataset I test the theoretical assumptions and findings from the previous work with a global dataset.

Secondly, I contribute with a fine-tuning of the concept of competency. In the existing literature on the competency-loyalty trade-off and other general studies on how politicians' competency correlates with other indicators, authors operate with a wide range of definitions of competency. In particular, the theoretical papers on the loyalty-competency trade-off rely on concepts of competency that are not easily translated into measurable indicators. Similarly, some of the quantitative studies rely on indicators that are not easily applied to cabinets prior to the emergence of the Internet, such as counts of name mentions (Lee and Schuler 2020). Others rely on very case-specific measurements that are harder to scale up (Ketchley and Wenig 2022; Aaskoven and Nyrup 2021).

The task of translating these concepts into measurable indicators that can be applied across countries with a large temporal range has been challenging. To test whether the loyalty-competency trade-off exists in all autocracies, and whether the gradual change of more competent with less competent ministers occur in all autocratic regimes, we need indicators that can be applied to all countries and across time. In my paper, I build on Lee and Schuler (2020)'s work and propose conceptualisations of technical and political competency that can easily be operationalised and measured for a global sample and across different time periods.

The theoretical papers that have laid the foundation for much of the research on the loyalty-competency trade-off argues that over time, autocrats will replace competent ministers with less competent ministers (Zakharov 2016; Egorov and Sonin 2011). The recent empirical papers nuance this claim, and have found that whether autocrats prefer less or more competent ministers both depends on the type of competency we are referring to and on the context in which the leader is operating. Some of the findings imply that autocrats may not be concerned about technically competent ministers, but are more apprehensive to hire politically competent ministers (Lee and Schuler 2020).

I draw on these findings to establish my two hypotheses. The first hypothesis is that as the autocrat's years in power increase, the political competency level

of his cabinet decreases. Political competency is defined as the ability to read and understand the rules of politics, notice external political threats and build a coalition of support. Building on the assumption that autocrats fear politically competent ministers, the logical step would be to replace the politically competent ministers with less competent ones. In the empirical work it does not seem to be the same case for technical competency. Technical competency is defined as the ability to identify good policies in their relevant domains, provide public goods or other technocratic skills that increase provision of rent. Therefore, the second hypothesis I test is that as the autocrat's years in power increase, there is either no significant or a positive change in the technical competency level of the cabinet.

This thesis finds that although there is some negative correlation between the leader's time in power and the political competency level of the cabinet, there is no statistically significant relationship for the correlation between leader tenure and the technical competency level of the cabinet.

Concept	Technical competency	Political competency
Theoretical expectation	As leaders' time in power increases, the share of ministers with technical competency decreases	As leaders' time in power increases, the share of ministers with political competency decreases
Finding	No empirical support of this claim with current data and conceptualisation of technical competency.	The picture is more nuanced, and highly dependent on how we define political competency.

Table 1.1: Summary of main findings

Contrary to the theoretical expectations of the existing literature (Zakharov 2016; Egorov and Sonin 2011; Frantz and Kendall-Taylor 2014), I find no empirical support for the theoretical expectation that we should see a decrease in the technical competency of cabinets over time under the same leader. This also supports my second hypothesis. In this study I only include 45 countries and 180 cabinets, and so this null-finding could potentially be a result of noise or potential heterogeneity in the data.

If this finding is correct, however, it implies that the theories we have on autocrats views on competency is incomplete and needs further development. Previous work has been limited by the lack of data necessary to test the assumptions of these theories empirically, but with the new dataset employed in this paper we can develop these theories in accordance with the empirical material. The findings in this thesis also corroborate some of the recent empirical studies on personnel preferences in autocracies (Lee and Schuler 2020; Ketchley and Wenig 2022).

The case of political competency, on the other hand, appears to support the existing theories. I find that as the time an autocrat stays in power increases, there

is a decrease in the share of politically experienced ministers. This is in line with both the existing theories and my first hypothesis. When I nuance the measurement of political competency, I find that this negative correlation is mostly driven by a decrease in the share of ministers who are partisan without having held political office.

In the final parts of the analysis I include an exploratory section where I divide the full sample into different regime types⁴. Similarly to the findings of the full sample, I find no statistically significant finding for the technical competency measurement. I find that the results for political competency differ between the different regime types, with some regimes having positive correlations of tenure and political competency, some having negative and some with no statistically significant correlation.

The results of the exploratory section tell us that although autocratic regimes have things in common, they are not the same. There is significant variation across the different regime types in how the competency levels change, and it seems that just like how there is huge variation within the different types of democracies, autocracies appear to be equally multifaceted. The sample size is reduced by the splitting, however, and more data is needed to make claims about different regime types and competency preferences.

Nevertheless, my findings indicate that the existing theories on personnel appointments in autocracies are incomplete and need further development to fully be able to capture the mechanics of subordinate preferences of autocrats. The conceptualisations of competency that has been applied in the previous work has been too simple or abstract to apply in empirical analysis (Zakharov 2016; Egorov and Sonin 2011). It seems that it is neither the case that autocrats employ more technocrats than democracies nor that they replace their technically competent ministers with less competent ones over time. In fact, looking at data on the technical competency levels of cabinets autocracies and democracies in recent years, the majority of ministers in both autocracies and democracies tend to be university educated⁵. The theories need to be expanded upon to account for how the loyalty-competency trade-off manifests across different regime types, and to account for variation in the different types of competencies autocrats needs or fears from their subordinates.

The structure of the thesis is as follows: First, I discuss the existing literature on regime survival, coups and coup proofing in autocracies, before honing in on the specific literature related to the loyalty-competency autocrats face when choosing

4. The four different regime types are party-based regimes, personalist regimes, military regimes and monarchies, based on the definitions of Anckar and Fredriksson (2019).

5. This can be seen in Figure 7.1 in the Discussion section.

subordinates. Recent empirical work that has tested these theoretical assumptions is also discussed. Then I introduce the theoretical framework that guides my analysis of the research question. Included in this section is a conceptual clarification of the concepts of technical and political competencies.

From this theory I derive two main hypotheses that I test using the data described above. In the Data and Methods section I introduce the soon-to-be-released Paths to Power dataset, and I discuss the Ordinary Least Square model with two way fixed effects that I use for conducting my regression analysis.

In the analysis, I show the results of the regression models and discuss the findings. Then, in the discussion section I connect the findings in my study to the previous research and the implications they have for the existing literature. Opportunities for future research is also discussed. Finally I conclude the paper with some final reflections.

Chapter 2

Literature Review

If an autocrat's ability to stay in power depends on the people he chooses to surround himself with, why would they want to surround themselves with incompetent people? To better understand why an autocrat may want to limit the competency levels of the people surrounding them, we first need to understand the threats that they face.

In this section, I will first outline the different threats that an autocrat faces that have been identified in the literature on regime survival. Specifically, I will hone in on the potential threats that the regime insiders and political elites pose to a dictator. Following from this discussion, I introduce the tools identified by the literature that leaders can use to mitigate these problems. In particular, I explore the ways in which autocrats can use their choice and replacement of subordinates to enhance their probability of staying in power. The concept of the loyalty-competency trade-off as it has been defined in the literature will also be elaborated on. Finally, I will explore the state of the literature on this concept, both by looking at case studies and recent single-country and regional quantitative studies that have empirically tested how subordinate selection changes under different circumstances.

The current literature on the competency-loyalty trade-off is largely dominated by either theoretical papers (Egorov and Sonin 2011; Zakharov 2016), in-depth case studies (Katouzian 1998), or quantitative single-country (Aaskoven and Nyrup 2021; Bai and Zhou 2019) or regional studies (Lee and Schuler 2020). The theoretical papers have contributed largely to how we think about how autocrats choose their subordinates. Both the case studies and the quantitative studies are important to illustrate empirically how autocratic leaders behave strategically in their choice of subordinates, but there is still no global study of the phenomena. The data needed to scale this research to a global level has not previously been available, but with the new Paths to Power-dataset (Nyrup, Knutsen, and Langsæther (2022)), it is now possible to test this on a global scale.

2.1 The threats and tools of autocratic leader survival

Autocratic leaders face several threats to their hold on power, and there are many ways in which an autocratic leader can be removed from power. These threats can come from the people they rule over, in the form of uprisings and revolutions (Svolik 2012) or from their own inner circle by the people they rely on to keep themselves in power (O'Donnell and Schmitter 2013; Bueno de Mesquita 2011).

Svolik (2012) has identified the main threats to autocratic rule as the problem of authoritarian power-sharing and authoritarian control. By authoritarian control, Svolik (2012) refers to the power struggle between the small ruling elite and the larger general population, and the tools the elite employ to control the masses. Authoritarian power-sharing, on the other hand, refers to the conflicts among the ruling elites (Svolik 2012). The main challenge to authoritarian power-sharing, according to Svolik (2012, 54), is the "... dictator's desire and opportunity to acquire more power at the expense of his allies."

Although we tend to think that autocrats are overthrown as a result of popular uprisings or massive demonstrations and strikes, the most common cause of an autocrat's removal from office is so-called palace coups staged by regime insiders (Ezrow and Frantz 2011). A large share of autocrats are removed from power by regime insiders (Ezrow and Frantz 2011), and according to Brooker (2009), military coup attempts occur twice as often in autocracies than in democracies. Similarly, Geddes, Wright, and Frantz (2018) find that between 1946 and 2010, 35% of autocratic regimes ended as a result of a coup, while only 17% ended as a result of popular uprisings. The threat that the elites pose to the leader, then, appears to be larger than the threat of the general public.

Despite this, the ruling elite are limited in their ability to control the autocrat's attempt to usurp their power and influence. The only tool that the autocrat's allies in the ruling coalition has to try to limit his power is a credible threat of the autocrat's removal from office, but their ability to pose this threat is restricted and affected by the specific environment which elites in dictatorships navigate (Svolik 2012, 55). This setting is characterised by its lack of an independent authority that can implement mutual agreements and by the fact that "...violence is the ultimate arbiter of political conflicts" (Svolik 2012, 56). As a result, attempting to stage a coup is costly for the political elites and the higher the perceived cost, the less likely it is that the allies will stage a coup (Svolik 2012). Because dictators by definition often lack a legitimate claim to office, however, they live in a state of paranoia and fear of being removed from office by their subordinates.

Current regime insiders are not the only political elites that can pose a threat to the sitting leader. Potential opposition leaders exist both outside and inside the regime, but they tend to come from current or former regime allies (Geddes, Wright, and Frantz 2018). The reason for this is that political elites have resource and network advantages that opposition members external to the regime lacks, which also makes it easier for them to overthrow the leader. The larger threat to the autocrat, then, does not necessarily stem from the general public, but from the people he surrounds himself with. No man can rule alone, however, and every autocratic leader is dependent on the support of a winning coalition of elites, without whom he cannot survive in office (Bueno de Mesquita 2011).

To try to cope with the threats that these insiders pose to the leader, there are several tools that the autocrat can employ. These tools can be divided into two general categories: repression and co-optation (Frantz and Kendall-Taylor 2014). Here, I will first focus on the former. Repression is divided into civil liberty repression that affects the population at large (such as limits on right of assembly, censorship) and physical integrity repression that typically affects individuals (political imprisonment, torture, disappearances, purges) (Frantz and Kendall-Taylor 2014). By punishing disloyal subordinates autocrats can increase the perceived cost of staging a coup for his allies.

Among these tools of repression, purging other political elites is one of the commonly used methods to limit the potential threat these elites pose to the leader (Goldring and Matthews 2021). Many autocrats have the power to "make or unmake" the political elites, and this making and unmaking has been used by leaders in autocratic regimes since their nascence (Machiavelli 2016). Although no one is truly safe from being purged, Goldring and Matthews (2021) find that autocrats are more likely to purge first-generation elites. These elites are understood as the ones that enter political power with the leader. Purging elites is a risky and costly process, however, as the regime insiders can respond by attempting to remove the new leader from power (Svolik 2012). This is therefore not a tool that is available to all autocrats, and autocrats might prefer less drastic measures.

Co-optation, then, can be another useful tool for autocrats to strengthen their hold on power. Frantz and Kendall-Taylor (2014, 333) defines co-optation as intentionally granting potential regime opponents benefits in exchange for their loyalty. Co-optation includes patronage, but also the establishment of institutions like legislatures and political parties that include opposition members into the regime with the aim to reduce their incentives to overthrow the sitting regime (Gandhi 2008). Furthermore, elites can be co-opted by being granted lucrative positions within the regime, thus giving them a vested interest in keeping the current leader in power.

By providing elites with benefits that outweighs the potential gains they would receive from removing him from office, the autocrat can use co-optation to try to keep his subordinates loyal. Nevertheless, elites with certain characteristics might be less likely to be loyal regardless of the co-optation measures taken by the leader. Therefore, the choice of subordinates play an important role in ensuring leader survival, and this is the topic we will turn our attention to next.

2.2 An autocrat's dilemma: The loyalty-competency trade-off

Political elites, and especially those belonging to the autocrat's winning coalition whom he depends upon to keep him in power, pose a great threat to his rule namely because of their positions close the pinnacle of power. The threat these elites pose to autocratic leaders is multifaceted. The autocrat not only needs to fear being abandoned by his elites, but also that they may try to remove him from power, plan how they can save themselves in case of a coup, as well as cultivate the challenger they believe stands the best change of overthrowing him (Machiavelli 2016). Coups led by current or former regime allies are common because these elites have better access to both the political network and resources needed to successfully overthrow the sitting leader (Geddes, Wright, and Frantz 2018). The elites therefore pose large threats to the dictator.

Still, staging a coup is not an action without cost. About half of all coup attempts fail, and the result of a failed coup can be loss of privileges that comes from being associated with the regime, imprisonment, or executions for treason (Geddes, Wright, and Frantz 2018). In particular, higher-ranking cabinet members and elites in strategic positions have a higher probability of being purged after failed coup attempts (Bokobza et al. 2022). Only when a sufficient number of regime insiders believe that they will be better off trying to replace the leader than they will be by remaining loyal, and when the potential cost of a failed coup is outweighed by the benefit of a successful one, will the insiders try to replace the leader (O'Donnell and Schmitter 2013). Leaders should therefore increase the benefits his subordinates receive from keeping him in power or make the cost of failed coup attempts so high that the potential benefits will not exceed the potential costs of a failed attempt.

The autocrat can limit the probability of coups being staged against him by making his subordinates well-being partially or completely dependent on him remaining in power. In the words of Machiavelli, the autocrat should make his subordinates dependent on him for his well-being by "... ..honoring him, making him rich, obli-

gating him to himself ... so that the minister sees he cannot stand without the prince..." (Machiavelli 2016, 111). When the goods the subordinates receive are contingent on the leader, they will have a vested interest in keeping him in power, and this can also reduce the incentives to conspire against him.

Since the elites have an extensive influence on the leader's ability to remain in power, he should take extra care when choosing his subordinates. The autocrat is in a difficult situation when making this choice, as he is dependent on subordinates to successfully run the political system, generate rents and fight wars, while they simultaneously pose a large threat to his hold on power (Goldring and Matthews 2021).

There is, however, no unified theory on what autocrats look for when choosing subordinates. Bell (2015) argues that autocratic leaders will tend to choose more competent subordinates than democratically elected leaders. Similarly, Zakaria (1994) refers to the "Asian miracle", where strong authoritarian states staffed their bureaucracies with highly educated technocrats and valued having these highly competent subordinates. It is argued that part of the reason why countries like Singapore, South Korea and Taiwan were able to succeed to the extent that they did was due to their largely technocratic and efficient bureaucracy (Looney 2021).

The other side of the debate argues that autocrats might actually prefer less competent subordinates. Scholars like Zakharov (2016), Egorov and Sonin (2011) and Ezrow and Frantz (2011) put forward the argument that leaders of autocratic regimes, and especially personalistic autocrats, will prefer less competent subordinates as they are believed to be more loyal. In fact, some of these authors say, it is not necessarily the incompetence of his subordinates that is the biggest threat to the dictator, but their potential disloyalty (Egorov and Sonin 2011). Following this line of logic, Zakharov (2016) argues that the autocrats who put more value on the capability of their subordinates will have a lower chance of remaining in power than the autocrats who are willing to hire less competent due to their greater loyalty.

The choice between more or less competent versus more or less loyal ministers has been termed the loyalty-competency trade-off (Egorov and Sonin 2011; Zakharov 2016). The theory stipulates that leaders must make a trade-off between the competency level of their subordinates and the loyalty level. The more competent a cabinet is, the less loyal they should be. If this logic holds, we would expect dictators who have been able to remain in power for a long time to have less competent cabinets. If we follow Zakharov (2016)'s reasoning we would expect that as the leader's time in power increases, the competency level of his cabinet should decrease. In the theoretical section these assumptions will be discussed further.

The threats that an autocrat faces change over time, and the type of people

he wants to keep in his inner circle to handle these challenges should also change. Svoblik (2012) argues that the longer a dictator remains in power, the probability of him becoming a victor of a coup decreases, and the probability of becoming what Svoblik (2012) calls an established autocrat increases. In his empirical sample, he finds that the longer an autocrat is able to remain in office, the higher is the chance that he is able to exit office due to natural causes, such as disease or old age, and the lower is the probability that his exit from office will be due to a coup (Svoblik 2012).

A potential explanation for the decreasing chance for autocrats of being removed from power through coups are the mechanisms outlined above. Over time a dictator will remove the more competent subordinates who pose a threat to his rule, and replace them with more loyal and less competent ones. These loyal subordinates are less likely to stage coups as they have more to gain by keeping the autocrat in power (Zakharov 2016). If all the potentially disloyal and competent ministers have already been removed in the earlier lifespan of the regime, there are also less subordinates left that would be capable of staging coups (Goldring and Matthews 2021). In fact, first-generation elites are more likely to be purged and removed from their positions than non-first generation elites (Goldring and Matthews 2021). The ones that the leader comes into power with are not necessarily the ones he want by his side for the rest of his time in power.

The arguments of both Egorov and Sonin (2011) and Zakharov (2016) are based on game theoretical models. If we turn our attention to case studies of several different regimes, we find that these patterns of replacing more competent with less competent cabinet members over time have emerged in regimes as diverse as the Pahlavi regime in Iran under Mohammad Reza Shah (Katouzian 1998), Adolf Hitler's Germany (Egorov and Sonin 2011) and the Dominican Republic under Trujillo (Hartlyn 1998). The thing these regimes all have in common, however, is that they are of a personalistic nature, or can fall into the category that Chehabi and Linz (1998a) titles sultanistic regimes. These are regimes in which loyalty to the leader is based on a mix of fear and rewards to the subordinates (Chehabi and Linz 1998a).

Whether this is truly a global phenomenon that is endemic to all autocratic regime or just something that can be observed in certain regimes is a question that still needs to be explored in more detail, and this thesis aims to contribute to that exploration. Most of the recent quantitative studies, as I will demonstrate in the next section, have been limited to more personalistic regimes, such as China under Mao during the Cultural Revolution (Bai and Zhou 2019) and Nazi-Germany under Hitler (Aaskoven and Nyrup 2021), although some regional studies have started to

appear (such as Lee and Schuler (2020)). There is still a need for a global study that can test whether the loyalty-competency trade-off is more salient in certain type of regimes or whether it is something that is endemic to all autocratic regimes. First, however, we will move the focus to the recent studies and what their findings tell us about the relationship between tenure and competency.

2.3 State of the literature on tenure and competency

Since the first studies have been largely theoretical or case-study based, the recent quantitative papers have had to develop operationable indicators for measurements of competency. These studies on promotions and selection of political subordinates in political regimes have started to test the loyalty-competency trade-off quantitatively, and developed different indicators and conceptualisations of competency.

In their regional study on minister promotions in East Asia, Lee and Schuler (2020) follow the convention from research on cabinet members in democracies (Camerlo and Pérez-Liñán 2015), and divide competency into two different concepts: technical and political competency. For technical competency, they measure the ministers' level of education, while for political competency they use a measurement of name visibility based on Google Trends data (Lee and Schuler 2020). What they find is that autocrats will promote ministers with technical competency, but are more hesitant to promote politically competent ministers to more prestigious political offices. The data seems to show that autocrats may not be hesitant about competent ministers in general, but rather that they fear the potential challenge politically competent ministers might pose to their rule.

Analysing the mass replacement of senior officials during the Cultural Revolution in China, Bai and Zhou (2019) test whether the theories of Egorov and Sonin (2011) and Zakharov (2016) are able to explain the pattern of replacement that took place during this period of Chinese history. Their analysis of biographical data on senior officials in the party found that the competency level (based on measures of education and military rank) fell drastically between the pre- and post-Cultural Revolution periods. They also argue that the significantly positive effect of birth year and education interaction on purge probability supports Zakharov (2016)'s hypothesis that subordinates with more outside options are less likely to be loyal, thus posing a larger threat to the autocrats, and are subsequently also more likely to be purged (Bai and Zhou 2019).

In their study on performance and promotions in Nazi Germany, Aaskoven and

Nyrup (2021) test the correlation between economic performance and promotions of regional leaders of the Nazi Party. Their results show that prior to the start of WWII, regional leaders who performed better economically were more likely to be promoted, but this changed after the outbreak of the war (Aaskoven and Nyrup 2021). Similarly, they find a positive correlation between being executed for war crimes after the war and a higher probability of being promoted during the war years. War crime executions are not associated with promotions during the peace years. In their paper, they argue that being executed for war crimes shows that these subordinates were willing to commit horrible crimes for their leader, and that this can be interpreted as a sign of loyalty (Aaskoven and Nyrup 2021). This result indicates that autocrats prefer different type of subordinates at different times in their rule. Prior to the war, technical competency in the form of generating better economic performance seemed to be more valued, whilst during the war loyalty was more valued.

Previously, I mentioned how purging is one of the efficient but costly tools autocrats can use to replace the elites they deem to be a threat to their rule. In their study on the purges after the 1952 revolution by the Free Officers in Egypt, Ketchley and Wenig (2022) find that political elites who score higher on their threat index (measuring ties to monarchy, military rank and other characteristics deemed threatening to the new regime) were more likely to be purged shortly after the coup. For members who scored higher on their competency measurements, using dummy variable for university graduates and a measurement of years as state elite, these elites were less likely to be purged, holding everything else constant. Their explanation for why competent elites were kept on is that the Free Officers lacked experience and knowledge of how to run the state apparatus, and thus the competent elites who were not deemed a threat were allowed to remain in the regime.

This could be a potential explanation as to why we would not expect new leaders to just replace all cabinet members with incompetent but loyal cabinet members. Linking this paper back to the article by Lee and Schuler (2020), the threat measurements of Ketchley and Wenig (2022) might align with both Egorov and Sonin (2011) conceptualisation of competency and Lee and Schuler (2020) conceptualisation of political competency. Furthermore, Ketchley and Wenig (2022) measurement of competency is similar to Lee and Schuler (2020) measurement of technical competency. It might not be surprising, then, that their finding is similar, namely that autocrats might fear political competency, but that they might value technical competency.

In the next section, I build on the literature and theorize the underlying mechanisms for why autocrats might want to change out their more competent ministers

with less competent ones. I put forward a theoretical explanation for how autocrats weigh the cost and benefits of having competent or incompetent ministers, and why they might choose to replace more and more competent ministers with less competent ones.

Chapter 3

Theory

One of the main underlying assumptions of this paper is that autocrats want to maximise their potential gains by staying in office, and that their actions will be motivated by this goal. Cabinet members also want to maximise their potential gains, but the best way to do so will be dependent on their competency levels. Less competent subordinates are not able to find equally rewarding employment outside of their employment under the current dictator, and therefore they are expected to exert greater efforts to keep the dictator in power than the more competent ministers. These ministers will have outside offers that are potentially equally rewarding and stand a higher chance of being rehired if the leader is changed (Zakharov 2016).

Competence amongst the cabinet members come with potential benefits for the leader. Technically competent ministers might be better at developing policies and generating growth (Lee and Schuler 2020). When a leader fears outside threats as well, such as from other states, competent ministers might also be better at both assessing the potential threat that outside actors pose to the sitting leader and be better suited to handle these challengers (Egorov and Sonin 2011). A less competent cabinet member might not be as able to handle these threats, even if he is more loyal to the leader (Zakharov 2016). Especially when setting up a state following a revolutionary coup, leaders might need to rely on the competence of others to help run the day-to-day activities needed for the state to function (Ketchley and Wenig 2022). Revolutionaries might be competent at staging revolutions, but different skills are needed to run the state, and this fact means that leaders need to rely on the competence of others.

Nevertheless, competent ministers can also pose a great threat to the leader. The competency that allows them to protect the state and the leader against outside threats, can also be turned around and used to overthrow the sitting leader (Egorov and Sonin 2011). If a cabinet member is so good at garnering political support and "playing the political game," they might also use that skill to rally people around

themselves as a potential new leader (Lee and Schuler 2020). First-generation elites, who came into power with the sitting leader, might be especially threatening, as they could be seen as more legitimate challengers and may have a political network that exceeds the later elites (Goldring and Matthews 2021).

These factors cause the autocrat to face a dilemma when choosing the competency level of his cabinet members. If he chooses to fill his cabinet only with competent people he might be able to handle external threats and develop good policies, but these competent cabinet members might also be less invested in keeping him in power. As they are more competent, they have better outside options and higher chances of being rehired if the leader is replaced, and they are also better able to assess the probability of whether coups might be successful or not (Zakharov 2016; Egorov and Sonin 2011).

Trying to coup-proof his regime by replacing more competent members with less competent ones, however, might also negatively affect the regimes' ability to handle external threats (Pilster and Böhmelt 2011). Furthermore, replacing competent ministers in the cabinet with less competent ones might be a stabilising move in the short-run, but may actually leave the regime more vulnerable to external and internal threats in the long run.

Before delving too deep into the assumptions on what autocrats consider when choosing their cabinet members, some clarification of concepts is needed. In the next section I provide conceptual definitions of the concepts of technical and political competency. I show how they differ, and how these concepts can be linked to measurable and observable indicators. Following this, I expand on the theoretical framework presented above. I discuss the aspect of time in the analysis of my research question. Building on these discussions I then extract two hypotheses related to how I expect competency levels to change over time under the same leader.

3.1 Technical and political competency: a conceptual distinction

Competency is a contested concept, as can be seen from the various ways that it has been defined in the literature (see Lee and Schuler (2020)). Indicators that have been used to measure competency include measures of income (Galasso and Nannicini 2011), education levels (Galasso and Nannicini 2017), party affiliation (Pekkanen, Byblade, and Krauss 2006), or professional background (Camerlo and Pérez-Liñán 2015).

In this paper I test how competency levels of cabinets change over time under the same leader. In order to test this, I first need to clarify what is meant by the concept of competency. Following the logic of Adcock and Collier (2001), the background concept of competency must be clearly linked to both the context-specific concept in this paper and to the indicators. Measurement validity is only achieved when the indicators meaningfully measures the same underlying ideas as the background and context-specific concept. The definition of the background concept of competency is the ability "to do something successfully or efficiently" and "a skill that you need in a particular job or for a particular task" (Dictionary,), but how can we use this definition to the measure cabinet ministers' competency levels?

One way to think of competency, is to think of it as a cabinet member's ability to analyse the political game. Egorov and Sonin (2011) define in their work on the competency of a vizier, or high-ranking political advisor, as his or her ability to determine the threat of a coup. This ability could stem from the vizier's competency in assessing the political climate at any given time.

The dictator wants a vizier who can protect him against external threats. The vizier's ability to analyse the power-differences between the external challenger and the incumbent dictator, however, this might also be what makes him prone to participate in a coup against the dictator. As the subordinate is better able to analyse both the strength of the incumbent and the competitor, the competent minister could also be more likely to side with the competitor if they think that they would be better off under a new leader. Therefore, a more competent minister could pose a threat to the autocrat. Egorov and Sonin (2011, 905) further argue that loyalty and incompetence, in their model, "... are two sides of the same token".

But competency does not only involve the ability to navigate the political system and build coalitions; a minister's tasks often require more technical abilities. Zakharov (2016) argues that subordinates differ in their task capabilities that are unrelated to their ability to keep the dictator in office, such as providing public goods, generating economic growth or establishing a functioning education system. Dictators also differ in how much they value this competency in their subordinates. Zakharov (2016) assumes that when leaders face high exogenous threats of removal, more competent ministers will be hired. These cases include when states have a history of coups, is a military regime, has a more democratic neighbour, is ethnically heterogeneous, or suffers from an on-going interstate conflict. Zakharov 2016. Zakharov (2016) never explicitly defines what he means by competency in his paper, except that it is a skill or set of skills that increases someone's ability to find outside employment. Therefore, we can infer that it should be a type of competency that is valued by future employers, and could potentially be linked to both technical skills,

Concept	Technical competency	Political competency
Definition	The ability to identify good policies in their relevant domains, provide public goods or other technocratic skills that increase provision of rent.	The ability to read and understand the rules of politics, notice external political threats and build a coalition of support.
Indicator	Education	Political experience

Table 3.1: Conceptualisation of technical and political competency

such as education and previous work experience, and political skills.

Competency is not just one thing. As mentioned in the literature review, Lee and Schuler (2020) enters the conversation by dividing the competency measurement into two components: political competency and technical competency. This division follows the convention on the research on minister appointment in democracies (Lee and Schuler 2020). They define the concept of political competency as "... the ability to build a coalition of support among colleagues or the public for oneself, one's party, or policy" (537). On the other hand, they define the concept of technical competency as "... the ability to identify the correct policies within a specific policy domain" (537). What they find in their study of appointments of ministers in East Asia, is that autocrats seem to fear the politically competent ministers, as these are less likely to be promoted to ministerial positions (Lee and Schuler 2020). The technically competent ministers, however, are not less likely to be promoted than the less technically competent ones.

Building on these previous conceptualisations of competency, the definitions of technical and political competency is as follows. Technical competency is the ability to identify good policies in their relevant domains, to provide public goods and other technocratic skills that increase provision of rent. Following Lee and Schuler (2020) and Besley, Montalvo, and Reynal-Querol (2011), I assume that this is positively correlated with education. That is, the more educated ministers are, the more technically competent they are compared to less educated ones.

Political competency, on the other hand, is the ability to read and understand the political game, to notice external political threats and to build a coalition of support. I assume here that political competency is correlated with political experience, i.e. that the ministers who have either partisan experience or who have held political office will be more politically competent than those ministers that do not have political experience (Pekkanen, Byblade, and Krauss 2006).

Although I am not explicitly measuring loyalty in this paper, the previously mentioned authors have proposed ways to indirectly measure loyalty. Egorov and Sonin (2011) argue that appointing unqualified family members to government positions that require either professional or political competency is a manifestation of

the reliance on loyalty over competency in subordinates. Similarly, Camerlo and Pérez-Liñán (2015) measures loyalty by the absence of either professional or political experience. Building on these authors, then, we assume that the less competent ministers are more likely to be loyal than the more competent ministers.

Now that we have clearly defined concepts of both technical and political competency, the attention now turns to the theoretical mechanisms guiding how autocrats choose their cabinet ministers. The way that these concepts are operationalised into measurable indicators is discussed in the data section.

3.2 Theoretical expectations

When autocrats come into power, the elites from the old regime are still in place, although the size of this group differs. One way to handle these elites, is to purge them all (Machiavelli 2008). Additionally, if all autocrats would prefer incompetent ministers over competent ones, we would expect that when an autocrat comes into power, he would replace all the competent ministers with incompetent ones. Nevertheless, this does not seem to be the case (Ketchley and Wenig 2022).

When they enter power, the autocrat and his allies often lack the experience and competence needed to run the state apparatus. From Ketchley and Wenig (2022)'s study of purges following the 1952 Egyptian Revolution, we can see that the existing political elites are treated differently based on what type of competencies they possess. Specifically, the elites that have features that are deemed threatening, such as being a senior-level official, having close ties to the previous leader or previously held political offices, are all more likely to be purged than ministers with less threatening features (Ketchley and Wenig 2022). These are features that closely resemble the previously presented conceptualisation of political competency.

Similarly, Lee and Schuler (2020)'s finding that the more politically competent candidates are less likely to be promoted to high prestige minister positions in autocratic regimes, indicate that autocrats are indeed sceptical of political competency. Furthermore, in their study on purges in autocracies, Goldring and Matthews (2021) show that first-generation elites, who have had more access to political power than the later generations, are also more likely to be purged over time than other political elites. When they entered office with the autocrat, they had a stronger bargaining position vis-à-vis the autocrat and were also able to negotiate for more power (Goldring and Matthews 2021). This political power, then, makes them a larger threat than other elites. Again, we see that political competency is viewed as a threat by the autocrat.

Nevertheless, because of the bargaining position of his allies at the start of the

period, who might have been active in political movements alongside the autocrat, we might expect that some of these politically competent allies are able to gain minister positions at the start of the regime. Over time, however, the autocrat seems to purge more of these first generation elites, and replace them with less politically competent ones. Building on this, I derive the first hypothesis:

H₁: As the dictator's time in power increases, the political competency level of the cabinet will decrease

Nevertheless, these autocrats need people with the ability to fill technical and administrative positions, and this might require a type of competency that the autocrat and his allies does not possess (Groth 1972). Indeed, following the Egyptian Revolution in 1952, ministers that had university education and experience as a state elite were able to stay in their position longer, keeping all other characteristics constant (Ketchley and Wenig 2022).

Autocrats also have longer time horizons than democratically elected leaders, who often remain in power for only one or two terms (Bell 2015). Since they have the opportunity to stay in power longer, they might also be better able gain the benefits of technically competent ministers (Lee and Schuler 2020). Therefore, the technically competent ministers could also help legitimise the government of the autocrat if they are able to use this competence to generate economic growth, provide public goods or otherwise contribute to the stability of the regime (Lee and Schuler 2020). In their study on minister promotions, Lee and Schuler (2020) find that the technically competent ministers, measured by education levels, are more likely to be promoted to minister positions than those with lower levels of education. Autocrats, then, seem to value technically competent ministers.

Given the assumption that autocrats do value technical competency, and are even willing to retain some former state elites given that their technical competency is high enough, it would logically follow that they would want to fill their cabinets with technically competent ministers from the beginning. Therefore, we should not expect a significant correlation between the leader's years in power and the technical competency level of his cabinet. This leads me to the second hypothesis:

H₂: As the dictator's time in power increases, the technical competency level of the cabinet will remain the same.

Before delving into the analysis, the next section introduces the novel dataset and the variables that I rely on to conduct the analysis. Following the data section, I then discuss the Ordinary Least Square (OLS) model with two-way fixed effects that I use to test the above-mentioned hypotheses in the methods chapter.

Chapter 4

Data

4.1 Paths to Power

The aim of this paper is to test how leadership tenure correlates with competency levels of cabinets in autocracies. In order to test this I rely on the new Paths to Power dataset that will be completed by autumn 2023¹. It is an expansion of the WhoGov dataset (Nyrup and Bramwell 2020), and, when finished, it will contain information on ministers from over 126 countries, and span the 55 year time period 1966 to 2021. The original WhoGov dataset contains information on cabinet members' name, gender, position, age, portfolio, party affiliation, prestige, and the time they have spent in the position (Nyrup and Bramwell 2020).

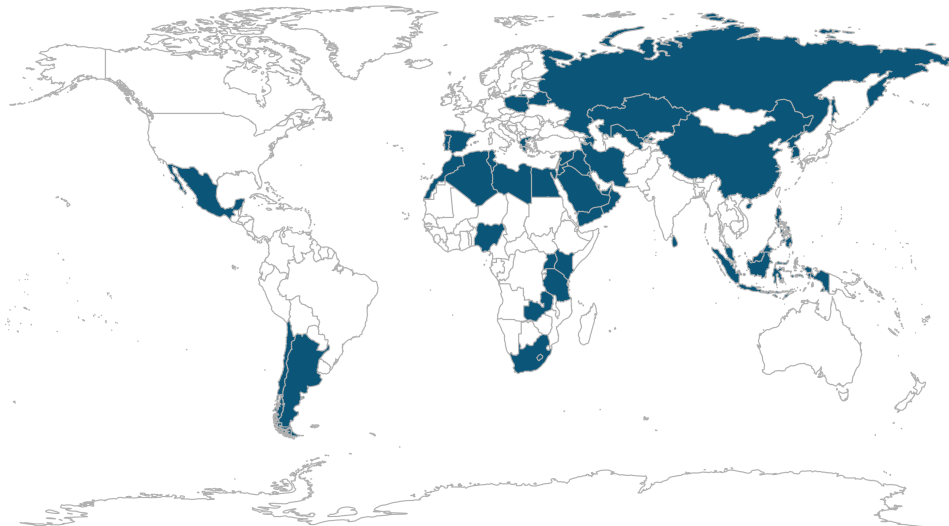


Figure 4.1: Map of countries included in this study

1. Disclaimer: I am currently employed as a research assistant on this project.

The new Paths to Power dataset expands on the WhoGov dataset by adding variables on cabinet members' type and level of education, socio-economic variables such as the family's class background, whether they are related to royals or politicians, as well as information on previous political and work experience (Nyrup, Knutsen, and Langsæther 2022). When completed, the dataset will contain information on the social profile of more than 35,000 cabinet ministers and will be one of the most extensive of its kind (Nyrup, Knutsen, and Langsæther 2022). This includes all countries with a population exceeding 10 million inhabitants, all small OECD (Organisation for Economic Co-operation and Development) and European Union countries, and a range of other smaller countries.

Although there are several existing datasets that have collected information on political elites, the Paths to Power dataset will have the widest scope, both geographically and temporally (Nyrup, Knutsen, and Langsæther 2022). Some datasets, like the Archigo dataset (Goemans, Gleditsch, and Chiozza 2009) have longer time spans, but only include leaders and less extensive information. Other datasets are more regionally concentrated, like Raleigh and Wigmore-Shepherd (2022)'s dataset on cabinet members in Africa. The type of research questions that can be addressed with this dataset will greatly contribute to our understanding of the role of political elites in both democracies and autocracies. With this data, social scientists can start to answer questions on the role of education, geography and class in the attainment of political positions and political career paths (Nyrup, Knutsen, and Langsæther 2022). This data is also what allows me to test whether autocrats do indeed change their more competent ministers with less competent ones over time.

The information in this dataset has been collected by a team of research assistants and external experts, and I have been part of the data collection process since November 2021. For each minister coded, we have searched for information on governmental websites, political encyclopedias (such as the Who's Who in the Arab World), and the ministers' official websites and social network profiles. When these have not been available, we have also used websites such as Wikipedia, Encyclopedia Britannica, etc., and triangulated the information when possible. For countries that have been harder to find information on, such as North Korea and Eritrea, external country experts have been hired to do the coding.

There has been some challenges to collecting data on the poorer and more closed off autocracies. This is also reflected in the data. Libya, Oman, Uganda, Syria and the USSR have between 34% and 36% missing on the education-level variable, and Libya, Morocco, USSR, Syria, Uganda and Yemen have more than 30% missing on the political experience variable. Collecting data on the earliest years in these regimes have proven extra challenging, and similarly for the years where information

flow out of the country has been highly restricted. The data collection process relies mostly on open sources, and in particular on online resources, and as a result the information available on ministers that came into their positions after the spread of Internet has been easier to code than the less prominent ministers from the earlier periods. How I handle this issue is discussed below in the robustness-test section.

For the purposes of this paper I only include the regimes that are qualified as non-democratic by not fulfilling the conditions of being classified as a democratic regime by the definition introduced below. Democratic regimes are regimes where the executive is either directly or indirectly elected in popular elections and answers either directly or indirectly to voters or a legislature, and where the legislature or, if directly elected, the executive are chosen in free and fair elections (Boix, Miller, and Rosato 2013). The dataset of these non-democratic regimes then consists of 45 countries, 180 leaders and 1771 cabinet-years. The included countries can be seen in the map in Figure 4.1. Of the 45 countries included, 18 of them were coded by me. A complete list of all the country-years included in this study can be found in Appendix C.

The reason that these 45 countries specifically are included in this study, is because the data collection process is still on-going. At the time that the analysis for this paper was conducted, the countries in this sample were the ones that we had finished coding. Of the 45 countries, 17 are Arabic-speaking and all the Persian Gulf monarchies are included in the sample. Although I include several countries from each continent, the composition of the data might affect the results that I find. This specific sample composition could then be a potential source of bias in my analysis, but as this thesis is just a first stab at using this dataset to answer question regarding person politics in autocracies. Once the dataset has been completed, the regressions in this paper should be rerun to see how much the results are affected by the specific sample I use in this thesis.

4.2 Defining autocracy

In this paper I am only concerned with how competency levels of cabinets are correlated with leadership tenure in autocracies. Therefore, what is meant by a regime being autocratic needs to be defined. Before delving into the operationalisation of the different variables I include in this study, I present the definition of autocratic regime used here.

There is an array of definitions of both autocratic and democratic regimes in the literature, but the definitions mostly fall into two camps (Meng 2020). On one side of the debate, we find the scholars that subscribe to Schumpeter's (1994,

269) minimal definition of democracy as a political system ”... in which individuals acquire the power to decide by means of a competitive struggle for the people’s vote.” Democracy is defined by the presence of competitive elections for positions of power, and any regime that does not meet this criterion is by definition autocratic.

Building on this definition, Alvarez et al. (1996) define democracies as regimes in which both the chief executives and members of the legislative body are elected through contested elections. Other definitions of democracy are more comprehensive and include components such as citizens having access to impartial information and freedoms such as freedom of expression, assembly and eligibility for public office (Dahl 1972).

Much of the literature has been concerned with how to define democracies, while less work has been concerned with how to define autocracies (Meng 2020). In this article I follow the definition of Boix, Miller, and Rosato (2013) and define autocratic regimes as regimes in which any of the two following criteria are not fulfilled:

1. The executive is directly or indirectly elected in popular elections and responsible either directly or indirectly to voters or to a legislature
2. The legislature (or the executive if elected directly) is chosen in free and fair elections.

The reason for choosing the Boix, Miller, and Rosato (2013) definition and dichotomous measurement of autocracies-democracies, and not using a continuous or scale measurement of democracy, like V-Dem, Polity IV or Freedom House, is two-fold. First, since I apply a minimalist definition of democracy in this paper, I am mostly concerned with the electoral features of the regime. The Boix, Miller, and Rosato (2013) definition provides a clear distinction of which regimes are considered autocratic and which are considered democratic, thus making it easier for me to establish an inclusion criterion for my sample.

Secondly, deciding on a cut-off point to make these scaled and continuous dichotomous can be challenging. In his study on the transformation of scaled variables into dichotomous measurements of democracy, Bogaards (2012) find 38 different ways that the measurements from Freedom House and Polity IV has been converted into a dichotomous measurement of democracy. The decision of where to put the cut-off point for democracy also affects the results you will get in your analysis. By using the Boix, Miller, and Rosato (2013) dataset I can rely on a measurement that is consistent with the definition of autocracy that I apply in this paper.

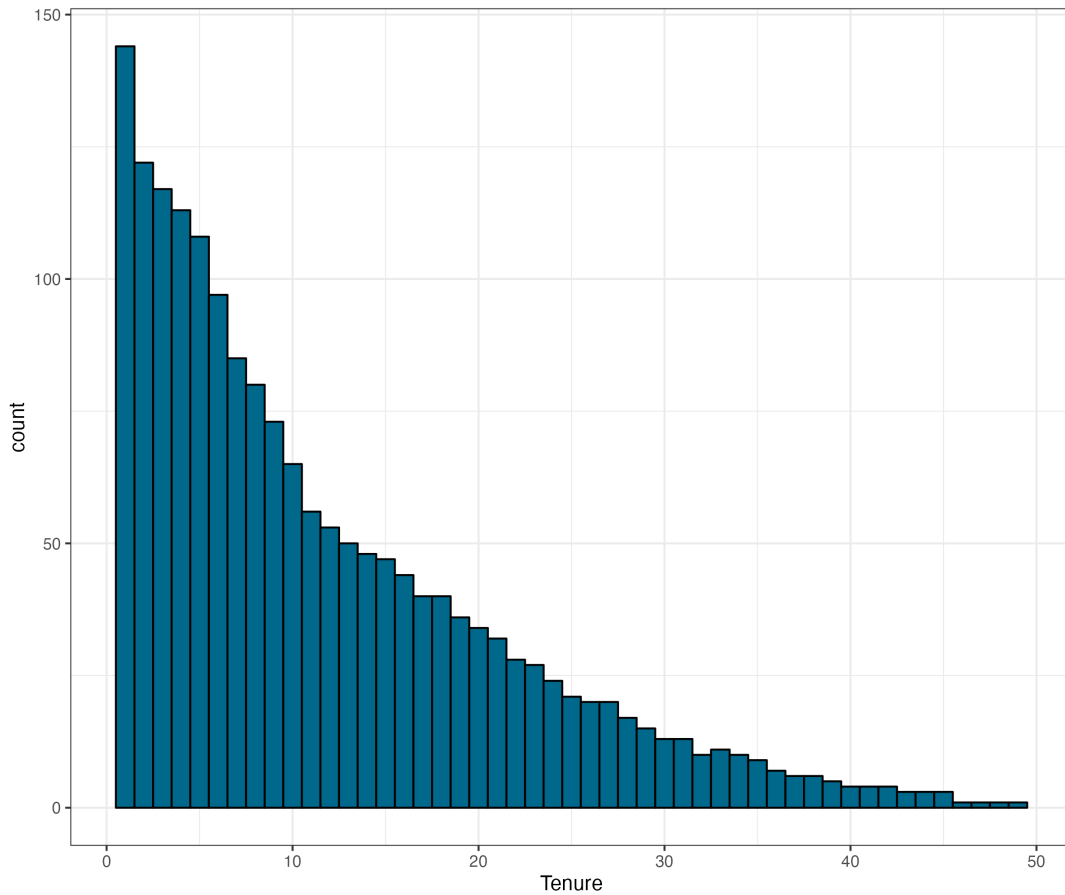


Figure 4.2: Histogram of tenure variable

4.3 Independent variable

The independent variable in this analysis is leadership tenure, and this is a measure of the years a leader has been in power in any given year. For every year the same leader remains in power, this variable increases by 1. In the WhoGov-dataset (Nyrup and Bramwell 2020), on which I base my tenure variable, the ministers and leaders are coded based on who is in power in July every year, except for in 1966 where the data was only available for September, and 1970, where the coders have used January instead of July (WhoGov Codebook).

The longest sitting leader in this dataset is Sultan Qaboos bin Said Al Said, who was the leader of Oman for 49 years until his death in 2019. Some of the leaders with the shortest tenure include Roberto Eduardo Viola who was the president of Argentina in 1981, and Choi Kyu-hah who was the president of South Korea from 1979 to 1980.

From Figure 2, we see that most of the leaders remain in power for a few years, while very few leaders remain in power for more than 35 years. This is consistent with the findings of (Svolik 2012). When using models with fixed effects, cases

that have more variation on the different variables will have more influence on our estimate of the regression effect (Huntington-Klein 2022). In the methods section below, I will discuss how I handle this in my models.

4.4 Dependent variables

In previous studies, several different indicators have been used to measure levels of competency. In some studies, scholars have used measurements of education levels or previous work experiences as a competency measurement (Galasso and Nannicini 2017). People’s income has also been used in previous studies as a competency indicator, following the argument that a high income is an indication of success and competence (Galasso and Nannicini 2017). Others again have used ties to political parties and having previously held elected office as another indicator of competency (Pekkanen, Byblade, and Krauss 2006).

Concept	Technical competency
Operationalisation	University education
Indicator	Share of cabinet members with university education
Values	Between 0 and 1

Table 4.1: Dependent variable of technical competency

In Lee and Schuler’s dataset, technical competency is operationalised as level of education. The justification for using education level as a measurement of technical competency is that previous research has suggested that higher education levels of leaders correlates with better performance (Lee and Schuler (2020)). In this study, I follow their example and use a dichotomous variable that takes the value 0 for no university education and 1 for any university education. I am interested in how the competency level of the cabinet as a whole changes over time, and to measure this I then create a variable that measure the share of cabinet members with university education.

Concept	Political competency		
Operationalisation	Previous political experience, both partisan and political office	Previous partisan experience	Previously held political office
Indicator	Share of cabinet members who have previous political experience	Share of cabinet members who have previous partisan experience	Share of cabinet members who have previously held political office
Values	Between 0 and 1	Between 0 and 1	Between 0 and 1

Table 4.2: Dependent variables related to political competency

For measuring political competency, Lee and Schuler (2020, 543) use a measurement of the minister’s public profile by relying on Google search data. Since the

dataset employed in this study spans from 1966 to 2021, relying on Google search data would not be a reliable measurement of the political competency of ministers from the period prior to the Internet becoming widely used. I therefore use three different variables for measuring political competency.

The first variable takes the value of 1 if the cabinet member has held political office (i.e. been elected to parliament, held position as mayor, governor, etc.) or if the minister has been partisan without holding political office (such as political advisor, active in party organisations, etc.), and 0 if they have no political experience. I then split these into two different variables, one that takes the value of 1 if they have held political office and 0 if they have not, and one that takes the value of 1 if they have been partisan without holding political office and 0 if not. Similar to the two technical competency variables, I generate variables that measure the share of cabinet members who have political experience, held political office and who have been partisan.

Statistic	N	Mean	St. Dev.	Min	Max
Years in power	1,771	11.682	9.715	1	49
Share political office	1,771	0.399	0.271	0.000	1.000
Share partisan	1,771	0.207	0.205	0.000	0.923
Share political experience	1,771	0.479	0.269	0.000	1.000
Share university educated	1,771	0.804	0.201	0.000	1.000

Table 4.3: Descriptive statistics

In Table 4.1 we see the descriptive statistics for the main variables included in the study. There are several cabinet-years that only have university educated ministers, especially in the recent years. The only cabinet-years that have no university educated ministers are Kuwait (from 1966-1970) and Oman (from 1966-1971). Qatar has the most cabinet-years with a zero-share of ministers with political experience, and there are several countries that have cabinet-years with no partisan ministers. The cabinet year with the most partisan ministers is Zambia in 1990, with 92.3% ministers who are partisan without having held political office. Countries that have a cabinet where all cabinet ministers have held political office include Poland, China, Kenya, South Africa and Singapore, while Libya, Oman, Qatar and Chile all have cabinet-years where no ministers had held political office before joining the cabinets. From this data we see that there is huge variation in the different cabinet compositions.

4.5 Control variables

To control for potential confounders, I run the models with several control variables. In the baseline model, I run the regressions with only time- and leader-fixed effects. Then I rerun the analysis with control variables for logged GDP per capita and logged population size, using data from the World Bank through the WDI package in R (Arel-Bundock 2022). Countries that have a higher GDP per capita have more money to spend on education, and regimes in lower income countries also have a higher chance of breaking down than higher income countries (Djuve, Knutsen, and Wig 2020).

Additionally, in the next model I include a control variable for failed coup attempts that is lagged by one year. From previous research we know that the replacement rate of cabinet ministers increase after failed coup attempts (Bokobza et al. 2022). Therefore, it is interesting to see whether the composition of the competency level of the cabinet ministers also changes after failed coup attempts. To estimate this, I rely on the dataset of Powell and Thyne (2011). In the Paths to Power-dataset, the leader that is coded in the dataset, is the one that is in power in July of any given year. Therefore, the coup attempts that occur before July 1st in any given year is coded as a 1 for the same year. Those that occur after July 1st are coded as a one in the next year.

In this study I am not interested in the effect of autocratisation per se on the competency level of the cabinets, but rather of tenure. Therefore, in another model I also include a control for the V-Dem Polyarchy score (Coppedge et al. 2023). I also include a control variable for mass mobilisation lagged by one year, using V-Dem’s mass mobilisation measurement. Mass mobilisation has been shown to correlate with regime change (Hellmeier and Bernhard 2023), and some studies have also found that mass mobilisations affects promotion and selection of political elites (Mirić and Pechenkina 2022).

In the third section I split my sample into additional samples for military dictatorship, party dictatorship, monarchies and personalist dictatorship based on the Anckar and Fredriksson (2019) dataset. Military regimes tend to be the most unstable regime types (Geddes, Wright, and Frantz 2014), but from Ketchley and Wenig (2022) we know that these are also more likely to rely on the competence of their subordinates. Personalist regimes, on the other hand, tend to be more stable, but from case studies of these regimes we also know that they tend to replace more competent ministers with less competent ministers (e.g. Katouzian (1998), Hartlyn (1998)).²

2. The definition of personalist regime in Anckar and Fredriksson (2019) is more in line with

By splitting the sample by regime types, we can see whether the replacement of more competent with less competent ministers is something that mainly manifests in certain regime types or common to all autocratic regimes. These split samples will allow me to analyse each regime type individually, and see how the variation differs cross them. A limitation of this dataset is that cabinets can change regime type under the same leader. This is the case for 6 cabinets affecting 6 cabinet-years, and so it should not have a great impact on the data.

Before starting the analysis, I will spend the next chapter discussing the statistical method I use to analyse the data.

Chehabi and Linz (1998b) definition of sultanistic regimes than Geddes, Wright, and Frantz (2014) definition of personalist rule. See Anckar and Fredriksson (2019) for full discussion

Chapter 5

Methods

5.1 Two-way fixed effects model

The Paths to Power dataset is a time-series cross-sectional (TSCS) dataset (Nyrup, Knutsen, and Langsæther 2022), where there are multiple units i observed over a period of time t . The units in this study are the different leaders' cabinets and the time is the different years in which they are observed. This structure allows for both spatial and temporal comparison.

Conducting analysis with these types of datasets has several benefits. One of the main benefits of using TSCS data, is that it allows the researcher to control for individual heterogeneity (Baltagi 2021). In non-experimental research, omitted variables is one of the most common challenges to unbiased estimations of the "treatment" effect of the explanatory variables (DeMaris 2014). Sometimes referred to as unmeasured confounding, this is the unmeasured characteristics of units that lead them to both be in particular "treatment" categories and to have a higher or lower score for the dependent variable of interest (DeMaris 2014). Since the data collected in the Paths to Power dataset measures both time- and unit-differences we do not need to assume that the cabinets are homogeneous, and this allows us to control for unit-specific and time-specific effects that would have otherwise biased the estimations (Baltagi 2021).

Another benefit of TSCS data is that it does a better job at identifying and measuring effects that we cannot detect in either pure cross-section or pure time-series data (Baltagi 2021). TSCS data allows us to see how actions taken by an individual in one time period affects the same individual in another period, holding all individual characteristics constant (Baltagi 2021). When we want to measure how leadership tenure correlates with cabinets' competency level, for example, we could follow individual leaders over time, and see how their cabinets' competency levels changed as their time in power increased, whilst holding individual leader charac-

teristics, such as place of birth and socio-economic background constant (Baltagi 2021).

Similarly, when comparing different countries to each other, there will be several confounding factors that are not easily measured, but remain relatively stable over time. Examples of this could be a country's geography, the culture of the people and its history (Huntington-Klein 2022). Factors that would change over time, however, such as GDP per capita and population size, would still need to be controlled for.

The way we can control for these invariable differences in our regression is to include either one- or two-way fixed effects in the regressions we run. The fixed effects allow us to control for these un-observable variables that stay constant within a given larger category (Frees 2004). In the dataset employed in this paper, I am looking at change in competency levels of different cabinets over time under the same leader. All of these cabinets will have features that remain relatively stable across the whole time period the leader stays in power, but that will differ between the different leaders. By employing leader-fixed effects in the regressions, I am able to account for all of these un-observables and the influence they may have on the change we see in competency levels.

The way this method works is that for each cabinet we calculate the mean competency levels for all the observations of this cabinet. Then, we subtract that individual mean from the different observations. What we are left with then is the within-variation, or how the competency levels within the different cabinets changed over time relative to themselves (Huntington-Klein 2022). This process is done for all the cabinets in the dataset. For example, if the technical competency level of a given cabinet, measured as share of ministers with university education, was 0.8 in the first year, 0.7 in the second and 0.6 in the third year of the same leader, the mean would be 0.7, and on average we would see a 0.1 decrease in technical competency level per year the same leader remained in power.

In the same way that we can use unit-fixed effects to account for unit-specific un-observables that are constant over time, we can also use time-fixed effects to account for effects that are due to specific events in a given year, month or other units of time (Huntington-Klein 2022). Whilst the unit-fixed effects described above compared individual cabinets with themselves over time, we compare cabinets with each other in a given time period when we use time-fixed effects. I can then control for the the temporal variation that does not vary across units (Frees 2004), such as a global financial crisis. Financial crises has shown to affect autocratic leaders' ability to remain in power (Rozenas 2016), and has also shown to be correlated with more technocrats being appointed to ministerial positions (Alexiadou and Gunaydin 2019). When using time-fixed effects, I can account for the impact that specific

events have on all the units in study in a specific time period.

By using both time- and leader-fixed effects I can observe the variation in competency level relative to what we would expect given the specific cabinet and year (Huntington-Klein 2022). The two-way fixed effects equation takes the following form (Huntington-Klein 2022) :

$$y_{it} = \alpha_i + \beta_t + \gamma X_{it} + \epsilon_{it} \quad i = 1, \dots, N \quad t = 1, \dots, T \quad (5.1)$$

where y_{it} is the dependent variable for cabinet i at time t , α_i is the unit fixed effect for cabinet i , β_t is the time fixed effect for time t , X_{it} is a vector of explanatory variables for unit i at time t , γ is a vector of coefficients for the explanatory variables and ϵ_{it} is the error term.

In the regression, I include leader fixed effects rather than country fixed effects. When using leader fixed effects I can control for all the characteristics of the leader that stays constant over time. By controlling for all invariable leader-specific characteristics, the variation that is allowed is also more restricted than if I only included country-fixed effects. This will also give me a more conservative estimate of the effect of tenure on competency levels, as I am only comparing the within-variation in cabinets.

The OLS-model assumes that the error terms in the regression are independent of each other (Huntington-Klein 2022). In my data I observe the same cabinets at different points in time. It is very likely that some of the variation I am not able to control for and that is not explained by my explanatory variable, is shared by all observations of each cabinet. If that is the case, the error terms would also be correlated with each other. This correlation would violate one of the assumptions of the OLS-model, resulting in incorrect estimates of the standard errors (Huntington-Klein 2022). The way to get around this is to cluster the standard errors at the same level as the fixed effect (Huntington-Klein 2022). In the case of this paper, the standard errors are clustered by leader.

Running regressions with two-way fixed effects might increase the chance of committing type 2 errors by finding false negatives. Much of the variation is controlled by both the unit- and time-fixed effects, and when clustering the standard errors as well, the chance of finding statistically significant results decreases. Nevertheless, it is necessary to include these effects to account for the influence of leader-specific effects that can affect the way they choose their ministers and their abilities to stay in power, as well as time-specific effects that can influence all the cases.

5.1.1 Robustness tests

In order to validate the data, I conduct several robustness tests. First, I re-run the regressions without countries that have more than 30% missing on the competency variables. Then, I test how the results change when I exclude the leaders who have been in power for more than 15 years.

As previously mentioned, some of the countries have issues with missing data. To test how much these countries influence the results, I run the regression again without including the countries that are missing more than 30% of ministers on either of the variables. The result of this robustness test is in Appendix A.

I also transform the independent variable of leaders' years in power to four different dummy variables for the leaders who remain in power for one year, two to five years, six to ten years and more than eleven years. By doing so I can test whether there is a big difference between the four different time intervals the leaders are in power, or whether it is a more gradual change. The result of this robustness test can be found in Table 6.9 at the end of the analysis section.

Chapter 6

Analysis

In this section I test the hypothesis introduced in the theory chapter. First, I look at single-country plots of Zambia, Oman and South Korea to get an idea of how the different competency levels have changed over time within individual countries.

Then I test Hypothesis 1, which states that as the leader's years in power increases, the share of ministers with political competency decreases. I first run the regressions with the political experience variable as the dependent variable, before I split the variable into share of ministers who have held political office and share of ministers who have been partisan *without* having held political office. After running the regressions with different controls I discuss the results.

Next, the focus shifts to the correlation of a leader's years in power and the technical competency level of his cabinet. The theoretical expectation of the second hypothesis is that I either find no significant change or a positive change in the technical competency level of the cabinet as the leader's time in power increases. I run the regressions with different controls and discuss the results.

To further investigate how these mechanisms work in different regimes, I split the sample into four different regime types: party-based, personalist and military regimes, as well as monarchies. Finally, I conduct some robustness tests to evaluate the findings.

6.1 Single-country plots

Before I discuss the results of the regression analyses, looking at plots of individual countries gives an idea of how the outcomes I am estimating change over time. In this section, I use examples from Zambia, Oman and South Korea to illustrate how different competency levels change within countries over time. In Figure 6.1, I display the share of Zambian cabinet members that had political experience before entering office. In 1991, multiparty-elections were introduced (Kronborg 2023), and

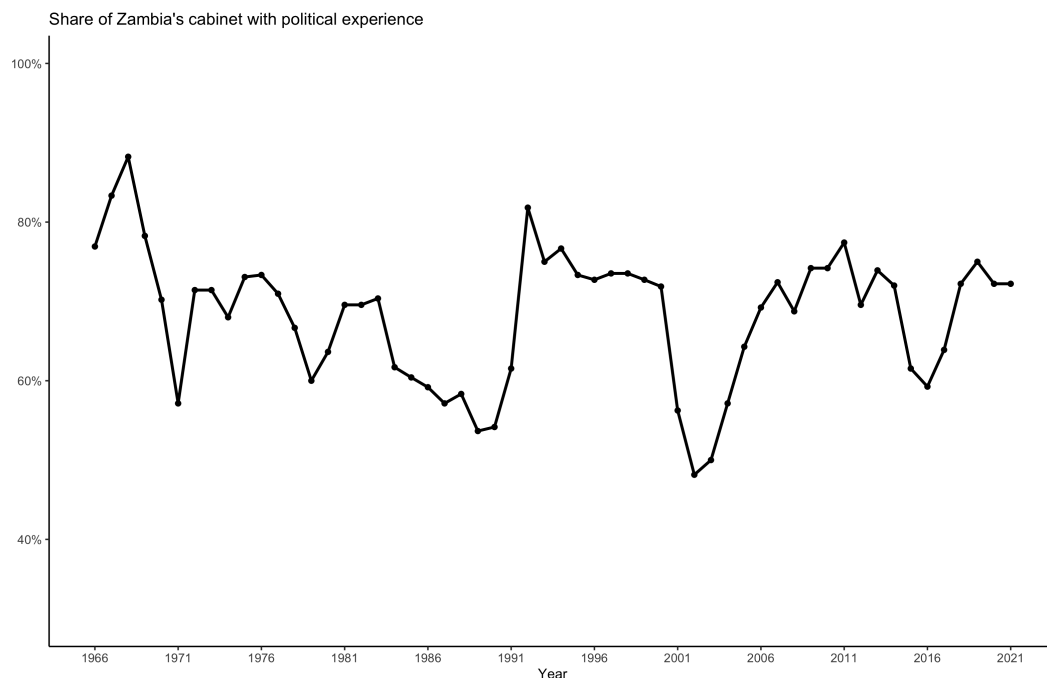


Figure 6.1: Share of cabinet members in Zambia with political experience

in Figure 6.1 we see an increase in the share of ministers with political experience between 1991 and 1992. In 1991, the share of ministers with political experience was about 61.5%, while in the first year of Frederick Chiluba's rule in 1992, the share was 81.8%. After that peak, the share decreased under his rule, and in his final year in power in 2001, the share was down to 56.3%. The rule of Frederick Chiluba exhibits a pattern that supports the claims of the first hypothesis, namely that over time autocrats will replace more and more of the politically competent ministers with less politically competent ones. Still, whether this is true for all autocrats or just some of them remains to be tested, which I do in the next section. But first I will test how technical competency changes over time in Oman and South Korea.

In Figure 6.2 we see how the share of ministers with university education has changed over time in Oman. Under Sultan Said bin Taimur, who remained in power until he was removed in a coup by his son on the 23rd of July 1970, the share of cabinet members with university education was 0%. Under the subsequent rule of his son, Sultan Qaboos bin Said al-Said, however, we see a sharp increase in share of ministers with 60% of the cabinet members having a university education in 1972 before it drops down again in 1973. Over time, however, we see a slow increase in education levels of the cabinet. In 2020, in the first year of Sultan Haitham bin Tariq Al-Said's rule in 2020, we see an increase from 58.8% in 2019 to 81.3% in 2020.

In Figure 6.3, we see the same data for South Korea during the period between

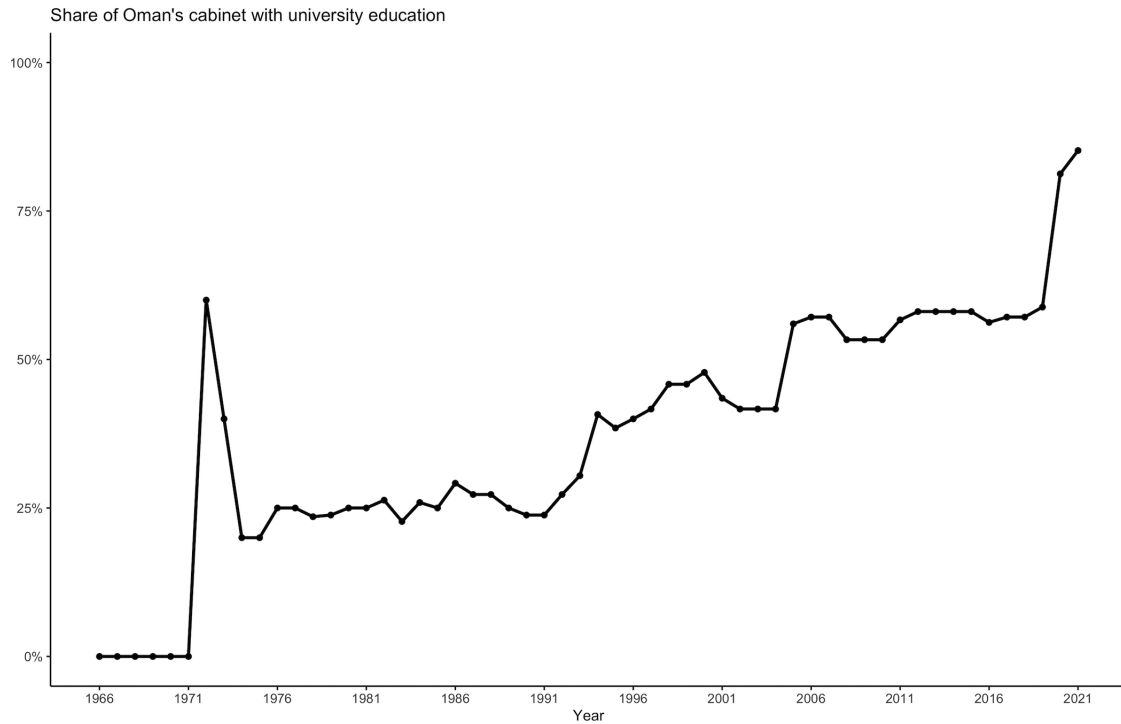


Figure 6.2: Share of Oman's cabinet with university education

1966 and 1987. The country is considered a democracy from 1988 onwards by the criteria of Boix, Miller, and Rosato (2013). There is an increase in the share of ministers with university education at the end of the 1960s. Towards the end of the rule of Park Chong Hui, between 1971 and 1979, the share of cabinet members with university education was 100%. Under the one-year rule of Choi Kyu Hah there is a small dip down to 94.7%. Then, under the rule of Chun Doo Hwan the share of university educated cabinet ministers fluctuated between 94% and 100%.

Just from looking at these two countries, it does not appear that technical competency is negatively correlated with the time the leader stays in power. It is, however, unclear whether the increase we see in education levels is positively correlated with the leader's tenure or whether it is a result of the general population also getting more educated or the fact that all autocrats want to employ educated ministers in their cabinets. Later in this section I will test the second hypothesis that states that as the leader's years in power increases, there will be either a positive change or no statistically significant correlation with the technical competency level of the cabinet.



Figure 6.3: Share of South Korea's cabinet with university education

6.2 Political competency

To commence, I test the first hypothesis, namely that as the leader's years in power increases, the share of ministers with political competency decrease. I start off by running the OLS-model with time- and leader-fixed effects using the share of ministers with previous political experience as the dependent variable, and the leader's years in power as the independent variable. Here, the political experience variable includes both those ministers who have previously held political office prior to becoming ministers and those who have been partisan without holding political office.

The result of this regression is seen in Model 1 in Table 6.1. For the baseline model there is a negative statistically significant correlation between the leader's years in power and the share of ministers with political experience. When controlling for leader- and year-fixed effects, there is an average decrease of 0.0104, or a 1% decrease, in the share of ministers with political experience. This effect is significant at the 0.05 level, which is considered as the conventional level of significance accepted (Huntington-Klein 2022).

In Model 2, I include control variables for GDP per capita logged and logged population. The effect of years in power on the share of ministers with political experience remains negative and significant at the 0.05 level, and increases slightly in size. The number of observations drops from 1771 to 1528 due to missing data for some of the cabinets in some of the years. Still, even when controlling for both

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	−0.0104* (0.0047)	−0.0111* (0.0051)	−0.0110* (0.0051)	−0.0113* (0.0051)	−0.0097 (0.0052)
log(GDP/capita)		0.0387*** (0.0090)	0.0386*** (0.0091)	0.0358*** (0.0098)	0.0355*** (0.0095)
log(Population)		−0.0005 (0.0430)	−0.0007 (0.0431)	−0.0055 (0.0428)	−0.0151 (0.0397)
Failed coup _{t−1}			−0.0039 (0.0118)	−0.0036 (0.0122)	−0.0026 (0.0120)
Mass mobilisation _{t−1}				−0.0072 (0.0066)	−0.0079 (0.0063)
Polyarchy					0.1851 (0.1061)
Num. obs.	1771	1552	1542	1542	1542
Num. groups: leader	180	162	158	158	158
Num. groups: year	55	55	55	55	55
R ² (full model)	0.9209	0.9295	0.9294	0.9297	0.9302

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.1: Share of ministers with political experience

GDP per capita and population, we still see a negative and significant effect.

Similarly, when I include controls for failed coup attempt and mass mobilisation, both lagged by one year, the coefficient remains negative and with a p-value of 0.05. When I add the control for polyarchy score, however, the significance disappears. A potential explanation is that when I control for the polyarchy score, the effect of the leader's years in power on the political competency level of the cabinet disappears. Another potential explanation is that because of the number of control variables there is some level of collinearity that leads to the significance level dropping (Schrodt 2014).

From these models, I find support for the first hypothesis, namely that as the leader remains in power, the share of cabinet members with political competency will decrease. Now, I will nuance the analysis further, and see whether it is the change in the share of ministers who have held political office *or* the share of ministers who have been partisan without political office, or both, that is driving this effect.

In Table 6.2, I display the results of the regressions where the dependent variable is the share of ministers who have held political office prior to becoming a minister. Again, Model 1 is the baseline model with time- and leader-fixed effects, Model 2 includes controls for GDP per capita and population, Model 3 includes control for failed coup attempt in previous year, Model 4 for mass mobilisation in previous year and Model 5 for polyarchy score. Although the coefficient for years in power all

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0077 (0.0052)	-0.0079 (0.0051)	-0.0078 (0.0051)	-0.0077 (0.0051)	-0.0056 (0.0052)
log(GDP/capita)		0.0068 (0.0083)	0.0068 (0.0082)	0.0082 (0.0081)	0.0078 (0.0079)
log(Population)		-0.0139 (0.0594)	-0.0145 (0.0594)	-0.0121 (0.0608)	-0.0246 (0.0562)
Failed coup _{t-1}			-0.0030 (0.0181)	-0.0031 (0.0181)	-0.0018 (0.0184)
Mass mobilisation _{t-1}				0.0035 (0.0079)	0.0027 (0.0078)
Polyarchy					0.2410* (0.1216)
Num. obs.	1771	1552	1542	1542	1542
Num. groups: leader	180	162	158	158	158
Num. groups: year	55	55	55	55	55
R ² (full model)	0.9196	0.9302	0.9303	0.9303	0.9311

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.2: Share of ministers who have held political office

point in the expected directions, none of the models are statistically significant. It does not seem, then, that it is the ministers who have held political office that are replaced over time. What happens when we use the share of partisan ministers as dependent variable?

Table 6.3 shows the results of the regressions when the dependent variable is the share of ministers who have been partisan without holding political office. Similar to the previous tables, I run baseline model that includes only time- and leader-fixed effects as controls in Model 1. The results here show a negative coefficient of 0.0084 that is significant at the 0.001 level. When including the controls for GDP per capita and population, the results remain at the same significance level and the size of the coefficient becomes -0.0089. Similarly, when I add controls for failed coup in Model 3, mass mobilisation in Model 4 and polyarchy score in Model 5, the direction of the coefficient and its significance level stays the same.

I find support for our first hypothesis, namely that as the years an autocrat stays in power increases, the political competency of his cabinet decreases. This negative change occurs because the more politically competent ministers are replaced with the less competent ones. It does not appear, however, that the autocrat wants to replace all types of politically competent ministers. Ministers whose political competency stems from having previously held political office does not appear to be systematically replaced with ministers who have not held political office. Re-

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	−0.0083*** (0.0018)	−0.0088*** (0.0023)	−0.0089*** (0.0024)	−0.0090*** (0.0023)	−0.0089*** (0.0025)
log(GDP/capita)		0.0288*** (0.0084)	0.0291*** (0.0082)	0.0270** (0.0087)	0.0270** (0.0087)
log(Population)		0.0201 (0.0272)	0.0204 (0.0272)	0.0167 (0.0273)	0.0161 (0.0266)
Failed coup _{t−1}			0.0145 (0.0175)	0.0147 (0.0177)	0.0148 (0.0177)
Mass mobilisation _{t−1}				−0.0055 (0.0052)	−0.0055 (0.0052)
Polyarchy					0.0123 (0.0887)
Num. obs.	1771	1552	1542	1542	1542
Num. groups: name	180	162	158	158	158
Num. groups: year	55	55	55	55	55
R ² (full model)	0.9200	0.9248	0.9248	0.9251	0.9251

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.3: Share of ministers with partisan experience

member, a minister having held political office is defined as having been elected to parliament, held position as mayor, governor, etc. prior to becoming a minister. Parts of the literature on coercion has shown that autocrats sometimes reward loyal subordinates with political office and that legislatures are often used as a mechanism to coerce potential political opponents (Frantz and Kendall-Taylor 2014). This coercion mechanism could also explain why these ministers are perceived as less of a threat than the ministers whose political competency stems from being partisan.

When we look at the ministers who have been partisan without holding political office (having worked as a political advisor, been active in party organisation, etc.), there is indeed a statistically significant and negative correlation. The years a leader stays in power negatively correlates with the share of ministers in his cabinets who have been partisan before entering office. These ministers may be perceived by the autocrat to pose a bigger threat, as many of these ministers have been part of the political movements that brought the leader into power. In Idi Amin's first year in power, more than 8% of the ministers fell into this partisan category, but by his third year there were none left. Similarly, under Khomeini's rule of Iran, the share of partisan ministers in the first two years was between 55-61%, but in his final year in power it was down to 33%. From the results of the regressions, we can see that autocrats do not fear all types of political competency. This finding contradicts the theories of the existing literature, and illustrates that the picture is more nuanced

than previously assumed.

6.3 Technical competency

Now that I have analysed how the political competency of the ministers change over time under the same leader, I now turn to analyse the same with technical competency. The expectations of Hypothesis 2 was to either find a positive correlation or no significant correlation between the years a leader has been in power and the technical competency level of his cabinet. Technical competency here is measured by the share of ministers with higher education.

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	−0.0045 (0.0036)	−0.0055 (0.0041)	−0.0054 (0.0040)	−0.0054 (0.0040)	−0.0045 (0.0042)
log(GDP/capita)		0.0173 (0.0169)	0.0170 (0.0167)	0.0164 (0.0171)	0.0162 (0.0171)
log(Population)		0.1321** (0.0471)	0.1317** (0.0471)	0.1307** (0.0476)	0.1252* (0.0503)
Failed coup _{t−1}			−0.0140 (0.0214)	−0.0139 (0.0214)	−0.0133 (0.0215)
Mass mobilisation _{t−1}				−0.0014 (0.0043)	−0.0018 (0.0043)
Polyarchy					0.1069 (0.1296)
Num. obs.	1771	1552	1542	1542	1542
Num. groups: leader	180	162	158	158	158
Num. groups: year	55	55	55	55	55
R ² (full model)	0.9000	0.9172	0.9167	0.9167	0.9170

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.4: Share of ministers with higher education

The results of the regressions can be seen Table 6.4. In Model 1, I include year- and leader-fixed effects. The results show that there is no statistically significant correlation between the two variables, but the coefficient is negative. When adding the control for GDP per capita and population, the coefficient remains negative, but does not reach a level of significance that would lead us to reject H_2 . The results do not change much when I add controls for failed coup, mass mobilisation and polyarchy score.

Substantively, these results tell us that there does not appear to be any systematic correlation between the years a leader stays in power and the technical competency level of his cabinet. This confirms the theoretical expectations of the second

hypothesis. In the theory chapter, I discussed the ways that technically competent ministers can benefit the sitting autocrat. Some of these benefits include the ability to generate more rent for the autocrat (Zakharov 2016) and the ability to perform administrative and technical functions that the autocrat might not be able to do himself (Ketchley and Wenig 2022). The finding that autocrats tend to promote higher educated candidates over lower educated candidates to ministerial positions could also explain why we see no variation. Given that most leaders want to employ highly educated people, we would not expect the level of technical competency in the cabinet to drop.

Hypothesis 1 states that as the leaders' years in power increases, I should see a negative change in the share of politically competent ministers. In the data, I do find partial support for this hypothesis. In the models that include controls for GDP per capita and population (both logged), failed coup attempts and mass mobilisation in previous year, as well as the two-way fixed effects, I find a statistically significant and negative coefficient for the political-experience dependent variable. For the partisan without having held political office-variable, this effect remains negative and statistically significant even when controlling for polyarchy scores. What I do not find, however, is a statistically significant negative correlation between the leaders' years in power and the share of ministers who held political office before entering their positions. From the data we can see that autocrats might not fear all politically competent ministers, but that they mostly fear the ones who have partisan experience.

I also find support for Hypothesis 2. In the second hypothesis, my expectation is that as the leaders' years in power increase, there is either no correlation or a positive correlation with the technical competency level of the cabinet. This is exactly what I find in all the models where the share of cabinet members with university education is used as the dependent variable. I do not find a statistically significant result even in the baseline model where I only include time- and leader-fixed effects. This result indicates that there is no systematic replacement of more educated ministers with less educated over time, and that weakens the claim that autocrats fear ministers with outside options (Zakharov 2016). In the next section I explore how the findings above differ between different regime types.

6.4 Exploratory analysis of regime type samples

To get a better understanding of whether and how the replacement of more competent with less competent ministers occur across different regime types, I split the sample into the different regime categories: party-based, personalist, military and

monarchical regimes. Despite the fact that this reduces the number of observations in each sample by quite a lot, seeing how the variation manifests across the different regime types give us an idea of how these regimes differ. Once the data collection process for the Paths to Power dataset is completed, this should be replicated with a larger number of observations per regime type to validate what I find in the current sample.

The results of these regressions paint a more nuanced picture of how competency preferences might differ across regime types. In Table 6.5, I test how the share of university educated ministers change. I find that although none of the coefficients are statistically significant, the coefficient for the independent variable that is positive for monarchies, military and personalist regimes. If we look at the standard errors for the coefficient for personalist regimes and monarchies, however, these are huge compared to the coefficients and therefore far from statistically significant. For military regimes, however, the standard error is only slightly larger than the coefficient, but with a p-value of 0.35 it is still far from statistically significant at a conventional level.

Although not significant, the fact that military regimes are the closest to having a significant result could reflect the findings of Ketchley and Wenig (2022), who find that military regimes tended to keep previous state elites who had higher education. As the number of observations in all of these sub-samples are very small, it is harder to find statistically significant results. Nevertheless, it also reflects the finding from the full sample, namely that with the available data there does not seem to be a statistically significant correlation between the leaders' years in power and the share of ministers with university education.

When we look at the different political competency measurements, another interesting pattern emerges. First, I regress leaders' years in power on the share of politically experienced ministers, which is the combination of the ministers who have held political office and who have been partisan. In Table 6.6, I demonstrate that the military regimes are the only ones with coefficients for which I find a statistically significant relationship. Although the coefficient for monarchies is also positive, the standard errors are massive. Corroborating the findings of Ketchley and Wenig (2022)'s paper, the results show that military regimes are more likely to depend on the political competency of their subordinates, and are less skeptical to it. In fact, they seem to include more politically experienced ministers over time.

When I disaggregate the variable into share of ministers who are partisan and share of ministers who have held political office prior to entering the cabinet, the results are contrary to my expectations stated in the first hypothesis. In Table 6.7, I show that the share of ministers who are partisan increase over time in personalist

	Party-based	Personalist	Military	Monarchy
Years in power	−0.0044 (0.0040)	0.0002 (0.0073)	0.0017 (0.0018)	0.1510 (2858.5325)
log(GDP/capita)	0.1057*** (0.0276)	0.0024 (0.0079)	0.0463 (0.0385)	−0.0298 (0.0287)
log(Population)	−0.4517 (0.2355)	−0.1526 (0.1678)	0.2440 (0.3122)	0.1185* (0.0474)
Failed coup _{t−1}	−0.0329 (0.0393)	−0.0112 (0.0191)	0.0099 (0.0372)	−0.0209 (0.0247)
Mass mobilisation _{t−1}	0.0071 (0.0068)	0.0103* (0.0040)	0.0009 (0.0089)	0.0010 (0.0081)
Polyarchy	0.0491 (0.2030)	0.0958 (0.2133)	0.0175 (0.2045)	0.0570 (0.2914)
Num. obs.	385	281	326	415
Num. groups: leader	40	36	38	24
Num. groups: year	54	54	54	54
R ² (full model)	0.9276	0.8919	0.8877	0.9522

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.5: Share of university educated as dependent variable

regimes; the results are statistically significant with a p-value of 0.01. This finding is counter-intuitive, as the act of replacing more competent with less competent ministers is expected, both from case studies and theoretical work, to be more prevalent in personalist regimes (Zakharov 2016; Egorov and Sonin 2011; Chehabi and Linz 1998b; Katouzian 1998; Hartlyn 1998).

A potential explanation is that those expectations stem from very distinct conceptualisations of personalist regimes, and might not reflect the nature of all regimes that fall into this category. In this paper, I rely on Anckar and Fredriksson (2019)’s definition of personalist regimes. This definition highlights the importance of a personalist regime not having a ruling ideology. If such an ideology exists, it should stem from the ruler himself. As a result, regimes like China under Mao Zedong is considered a party-based regime and not a personalist regime (Anckar and Fredriksson 2019). Therefore, if the regressions were rerun with another definition of personalist regimes, such as the one by Geddes, Wright, and Frantz (2014), the results might be different. I discuss this further in the next chapter. Nevertheless, it is very interesting how the finding of a positive coefficient for share of partisan ministers contradicts the first hypothesis, namely that over time the more politically competent ministers will be replaced by the less competent ones, when looking at the sample only containing personalist regimes.

When I look at the dependent variable for share of ministers who have held polit-

	Party-based	Personalist	Military	Monarchy
Years in power	−0.0025 (0.0043)	−0.0119 (0.0130)	0.0267* (0.0126)	0.0859 (2508.9563)
log(GDP/capita)	0.0557 (0.0381)	0.0266* (0.0113)	−0.0120 (0.0375)	0.0411 (0.0399)
log(Population)	−0.0893 (0.2549)	0.0667 (0.0898)	0.0706 (0.3618)	−0.0591 (0.0610)
Failed coup _{t−1}	0.0007 (0.0255)	0.0396 (0.0601)	0.0361 (0.0195)	0.0090 (0.0152)
Mass mobilisation _{t−1}	−0.0141 (0.0103)	0.0036 (0.0105)	−0.0200 (0.0144)	−0.0089 (0.0114)
Polyarchy	−0.0827 (0.1943)	0.3884 (0.2180)	0.2363 (0.3367)	0.1193 (0.2186)
Num. obs.	385	281	326	415
Num. groups: leader	40	36	38	24
Num. groups: year	54	54	54	54
R ² (full model)	0.9103	0.9332	0.8835	0.8945

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.6: Share with political experience as dependent variable

ical office and compare the different regime types, the results differ. Table 6.8 shows that for military regimes, there is a positive and statistically significant correlation of the leaders' years in power and the share of ministers who have previously held political office. When I look at personalist regimes, however, this result is negative and has a p-value of 0.001. For monarchies and party-based regimes, I find no statistically significant correlation between leaders' time in power and the share of ministers who have previously held political office.

Despite the perception that autocrats are strongmen who only care about acquiring and staying in power, it does not seem that they systematically replace their competent cabinet members with incompetent people over time. Digging deeper into how the different dependent variables change in the different regime types allows for a better understanding of how the mechanism work. Due to the limited scope of this paper, the regression tables for the non-significant findings are in Appendix C.

In fact, when I look at the findings that *are* statistically significant in the split sample, I find that military dictatorships have a positive correlation between leaders' years in power and the share of minister with political experience. Similarly, personalist autocracies are the only regimes where a leader's time in power has a statistically significant correlation with the share of partisan ministers in the cabinet. The fact that this correlation is positive is even more interesting, as this goes against the conventional wisdom that personalist autocrats are even more skeptical

	Party-based	Personalist	Military	Monarchy
Years in power	−0.0023 (0.0038)	0.0652** (0.0184)	0.0122 (0.0078)	−0.2435 (1140.9496)
log(GDP/capita)	0.0012 (0.0314)	0.0110 (0.0122)	0.0519* (0.0229)	0.0245 (0.0205)
log(Population)	0.1510 (0.1906)	0.3274* (0.1603)	−0.0944 (0.2480)	0.0329 (0.0301)
Failed coup _{<i>t</i>−1}	0.0609 (0.0310)	0.0549 (0.0304)	0.0207 (0.0123)	−0.0322 (0.0207)
Mass mobilisation _{<i>t</i>−1}	−0.0012 (0.0085)	−0.0135* (0.0064)	−0.0184 (0.0093)	0.0004 (0.0087)
Polyarchy	0.1118 (0.1923)	0.1506 (0.3211)	0.1810 (0.2476)	0.0559 (0.1119)
Num. obs.	385	281	326	415
Num. groups: leader	40	36	38	24
Num. groups: year	54	54	54	54
R ² (full model)	0.9683	0.9287	0.8716	0.8680

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.7: Share partisan as dependent variable

of competent subordinates (Zakharov 2016; Egorov and Sonin 2011). It appears that competent people can prosper in autocracies, and they are not all punished for their competence when joining cabinets.

In the next chapter, I discuss how these findings fit within the wider research on political elites in autocracies. Before doing so, however, I will conduct several robustness checks to validate the results of the regressions.

6.5 Robustness tests

Conducting robustness tests is important to validate my findings. If the coefficients are very sensitive to the model specification, it can be indicative of model specification errors and the robustness tests helps to diagnose this (Leamer 1983). If the coefficients do not change much when the model specification changes, this suggests that findings are "robust" (Lu and White 2014). To test whether the results are due to the influence of certain observations, I conduct several robustness tests in this section.

As mentioned in the data section, some of the countries are missing information on either the education variable or the political variables. I rerun the regressions without the countries that have more than 30% missing on either of the variables. These countries include Libya, Oman, Uganda and Syria for the education variable,

	Party-based	Personalist	Military	Monarchy
Years in power	0.0048 (0.0035)	−0.0815*** (0.0151)	0.0318* (0.0146)	0.1620 (2854.7386)
log(GDP/capita)	0.0038 (0.0229)	0.0235 (0.0125)	−0.0678 (0.0361)	0.0381 (0.0471)
log(Population)	0.0142 (0.1953)	−0.4532* (0.1793)	0.2140 (0.5232)	−0.1079 (0.0807)
Failed coup _{t−1}	−0.0624 (0.0310)	−0.0335 (0.0345)	0.0360 (0.0193)	0.0570 (0.0313)
Mass mobilisation _{t−1}	−0.0047 (0.0060)	0.0139 (0.0089)	0.0145 (0.0150)	−0.0129 (0.0168)
Polyarchy	−0.1115 (0.1516)	0.3307 (0.2249)	0.1039 (0.3603)	0.1360 (0.2621)
Num. obs.	385	281	326	415
Num. groups: leader	40	36	38	24
Num. groups: year	54	54	54	54
R ² (full model)	0.9741	0.8998	0.8654	0.7783

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.8: Share of ministers who have held political office as dependent variable

and Libya, Morocco, Syria, Uganda and Yemen on the political variables. The results of these regression can be found in Appendix A.

The coefficients remain in the same direction, and in the full models that include controls for GDP per capita, population and the different regime types, there is only a statistically significant and negative correlation. The missing data for these countries on these variables are most likely not missing at random, but can be due to the very limited amount of information that is available for these poorer and at times more closed off regimes. Nevertheless, even when these are excluded from the analysis, the results do not change much.

Another test I ran, is that instead of using a measurement of the leaders' time in power that increases by one every year, I divide the leaders into four different groups according to how long they stay in power. In the first group I include only the first year of each leader. Then, in the second group I include 2-5 years, the third group 6-10 years, and the final group is those who have been in power for 11 years or more. When I run the regressions including these coefficients as different independent variables, with the first group as the reference category,

The direction of the coefficient for the different year-categories changes for the model with the share of ministers with university education as dependent (Uni.Edu). In the full sample when I used the years in power as dependent variable, this coefficient was negative. This could indicate that there might be a lot of noise or

	Uni.Edu	Pol.Exp.	Partisan	Pol.Off.
2 to 5 years	0.0073 (0.0075)	-0.0149 (0.0105)	-0.0047 (0.0079)	-0.0093 (0.0096)
6 to 10 years	0.0135 (0.0143)	-0.0163 (0.0156)	0.0003 (0.0129)	-0.0081 (0.0147)
11+ years	0.0261 (0.0211)	-0.0214 (0.0218)	0.0046 (0.0183)	-0.0052 (0.0196)
log(GDP/Capita)	0.0173 (0.0172)	0.0359*** (0.0100)	0.0279** (0.0086)	0.0085 (0.0082)
log(Population)	0.1229* (0.0488)	-0.0280 (0.0364)	0.0065 (0.0255)	-0.0310 (0.0549)
Failed coup _{t-1}	-0.0163 (0.0221)	-0.0067 (0.0149)	0.0103 (0.0188)	-0.0046 (0.0192)
Mass mobilisation _{t-1}	-0.0018 (0.0043)	-0.0074 (0.0061)	-0.0053 (0.0053)	0.0029 (0.0077)
Polyarchy	0.1733 (0.1257)	0.2551* (0.1219)	0.0998 (0.1025)	0.2935* (0.1317)
Num. obs.	1542	1542	1542	1542
Num. groups: leader	158	158	158	158
Num. groups: year	55	55	55	55
R ² (full model)	0.9170	0.9290	0.9233	0.9308

Time- and leader-fixed effects, standard errors clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 6.9: Tenure divided into groups

heterogeneity in the data. The fact that none of the coefficients are significant for the different year groups, but that the size of the standard increases as the years increase indicates that much of the variation happens in the first years the leader is in power. As can be seen in table 6.9, the size of the standard errors increase quite a bit, and this indicates that there really is not much variation there for the model to capture.

What this tells me is that when it comes to cabinet composition, much of the action is in the earliest years. The direction the year-group coefficients in the different models related to political experience all point in the same direction as the full model, but these are also not statistically significant. Even when running the simplest model that only include the different years as independent variables, the results remain statistically non-significant. In the next chapter I touch more upon what these findings mean for the robustness of the findings in this paper.

Chapter 7

Discussion

In this thesis is motivated by the following research question: *How do the competency levels of cabinets in autocracies change over time under the same ruler?* Here, I draw on the findings from the analysis session to answer that question. The layout of the chapter is as follows. First, I discuss the main findings from the analysis and how they relate to the existing research on political elites in autocracies. Then, I consider what the findings can contribute to the wider discussion on the workings of autocratic regimes. Finally, I discuss the limitations of this study and explore potential extensions of the analysis in this paper and future research questions that this paper points to.

7.1 Main findings

Drawing on the existing literature on subordinate selection in autocracies, I derived two main hypotheses. By developing more nuanced concepts and indicators for both technical and political competency, I tested these hypotheses on the novel Paths to Power dataset. The findings in the previous section provides some support for the expectations of H_1 , namely that as the leaders' time in power increases, the share of ministers with political competency decreases. When using political experience as the dependent variable, which is a combination of the share of ministers who have held political office or who have been partisan without holding political office, I find a negative coefficient. The results remained statistically significant and negative across the different models when I included economic controls, failed coup attempts and mass mobilisation in previous year. When controlling for the different countries' polyarchy score, however, the significance level dropped.

The political experience variable is a combination of two different variables, and to find out how the different variables affect the result, I reran the regressions with the two different dependent variables. To recount briefly, ministers are defined as

having held political office if they have been elected to parliament, held position as mayor, governor, etc.. They are defined as partisan without holding political office if they have been political advisors, active in party organisations or other political movements, etc. without having held political office. The results of these regressions, when I use the full sample, show that a leader's years in power has no statistically significant correlation with the share of ministers who held political office before becoming ministers, but it does with the share who were partisan without political office.

The finding that autocrats do not appear to systematically replace ministers who have held political offices with ministers who have not is less surprising if we look back at the literature on co-optation in autocracies. As Frantz and Kendall-Taylor (2014) identify, a common way autocrats try to limit the challenges posed by potential oppositions is through the creation institutions such as legislatures and political parties. These institutions are then used to integrate the potential opposition forces into the regime, giving these rivals more credible access to benefits and less incentives to organise to remove the sitting leader (Gandhi 2008). Co-optation through institutions is common in autocracies, and according to Frantz and Kendall-Taylor (2014), only 10% of the 460 dictators that were in power between 1946 and 2004 chose *not* to establish either a party or a legislature. Considering this fact, it could be that the ministers who have previously held political office, have been able to do so because the dictator was trying to co-opt them into the regime. If they have then gained a vested interest in maintaining the current regime to receive their benefits, they are also less threatening to the autocrat.

Another potential explanation for why autocrats do not seem to replace those who have held political office with people who have not, is that their experience is useful for the autocrat. Ketchley and Wenig (2022) found in their study that those state elites who had more experience, measured by the years they had been state elites between 1939 and 1952 in Egypt, were less likely to be purged post-revolution. Measuring ministers' political competency by whether they have held political office might capture something similar to Ketchley and Wenig (2022)'s measurement of experience. If it was the case, however, that autocrats wanted more politically experienced ministers over time we would expect to find a positive correlation for this variable.

The regime that Ketchley and Wenig (2022) analyse is a military regime, and when I re-run the regressions with the different regime types, I find that in military regimes, the share of ministers who previously held political office before becoming ministers increase under the rule of the same leader. The results remain significant at a 95% significance level across all the models. The political experience-measure

used by Ketchley and Wenig (2022) is a measure of years spent as a state elite, while the political office variable I rely on measures whether or not a minister has previously held political office. If we assume that the political office variable measures a similar concept to Ketchley and Wenig (2022)'s concept of experience, my results corroborates their findings.

For personalist regimes, we see that there is a negative coefficient for the time a leader remains in power on the share of ministers who have previously held political office, and this coefficient remains significant across all the different models. Even when all the control variables are included, the coefficient remains -0.0815, indicating that on average for every year a personalist autocrat remains in office, the percentage of cabinet ministers with experience of holding political office decreases by 8%. Zakharov (2016) and Egorov and Sonin (2011) both argued that the trend of more competent ministers being replaced with less competent ones should be more prevalent in personalist regimes, and this is only the regime type where we see a clear decrease in the share of ministers who have held political office over time. Again, we find some support for the first hypothesis, although it is highly dependent on regime type.

The finding from the full sample that the share of partisan ministers goes down under the rule of the same leader could potentially indicate who it is that the autocrat finds threatening. Several of the ministers who are coded as partisan without having held political office share similar features with the first-generation elites as Goldring and Matthews (2021) define them in their paper. In the case of Iran in 1980, the first year after the Iranian Revolution, the share of cabinet members who were coded as partisan without having held political office was 61%, while already in 1981 this was down to 35% (Nyrup, Knutsen, and Langsæther 2022). Similarly, in 1971 in Libya, Muammar Gaddafi's second year in power, the share of ministers defined as partisan was 14.5%, the next year it was down to 6%, and in 1977, 0% of the cabinet ministers fell into this category.

The results show that the share of partisan ministers tend to go down under the same ruler, and a potential logic could be the explanation of Goldring and Matthews (2021) on why first-generation elites tend to be purged more often. Autocrats cannot rule alone and depend on the elites around them to keep them in power. Some of these partisan ministers have been part of the same political movements that brought the leader into power, and are better situated to negotiate their share of power than elites who join the regime at a later date (Goldring and Matthews 2021). These elites will be better able to control the autocrat because they are able to negotiate a higher share of the power and thus pose a more credible threat to the autocrat (Svolik 2012).

Svolik (2012) identifies that the main challenge to successful power-sharing in autocracies is the dictator's wish to acquire more power at the expense of his allies, and the only tool the allies have to counter this is the threat of rebellion or coup. Once the initial power arrangement is set, the autocrat can try to acquire more power by purging these first generation elites that he finds the most threatening (Goldring and Matthews 2021). This mechanism could be what the regressions are capturing when I find that the share of partisan ministers is negatively correlated with the leader's years in power.

Additionally, another potential explanation could be that those ministers who fall into the category of being partisan without holding political office have specific skills and network connections that can make them seem more threatening to the autocrat. The ministers in this category have often been political advisors, members of political parties or played central roles in political movements. The skills they acquire through that experience, such as rallying up political support, recruiting members to their side and pushing for political causes could all help them gather support to stage a coup against a sitting autocrat. In contrast to the ministers who previously held political office, these ministers have not been as integrated into the regime before becoming ministers. Therefore, they might have less incentives to keep the current leader in power.

A more counter-intuitive finding from the split sample is that in personalist regimes, the share of ministers who have partisan experience increases over time as the leader's time in power lengthens. The coefficient remain positive and statistically significant across all the models. Perhaps personalist autocrats have a preference for ministers who have some political experience from being involved in parties, political movements or as political advisors, and that they find these subordinates less threatening than the ones who have actually held political office. Those ministers who have previously held political office might also be better able to constrain the autocrat from acquiring an even larger share of the power than those who have just been active in parties and movements. The network of the ministers who have previously held political office could also make them better able to pose credible threats of coups to constrain the autocrat (Svolik 2012). Therefore, to reduce the threat that they pose, a personalist autocrat replaces these ministers over time.

When looking at the change in technical competency of cabinets over time, I find no statistically significant relation between the leader's years in power and the technical competency of his cabinet. Although the direction of the coefficient was negative, the p-value was more than 0.47, and therefore far from statistically significant. The reason for the high p-value could of course also be that the data is noisy and heterogeneous. When the Paths to Power dataset is completed, this



Figure 7.1: Share university educated by regime type

analysis should be replicated to see if the findings hold when all 126 countries have been coded.

Nevertheless, this finding contradicts part of what Zakharov (2016) expects to find, namely that over time autocrats will replace the competent ministers with less competent ones. Remember that in Zakharov (2016), competency was defined as a set of skills that would help them seek outside employment, which can also be linked with having higher education. Having university education does not have a statistically significant correlation with the leader's years in power, thus weakening the claims.

Even when the sample is split into different regime types, there is no statistically significant correlation between leaders' time in power and the education levels of the cabinet. It appears, then, that regardless of the types of regimes, autocrats will not systematically decrease the share of ministers with university education over time. Perhaps these ministers are not as threatening to the autocrat as the theory proposes, and that they instead can help promote the leader's ability to stay in power by using their competencies to run the regime better.

The earliest works on the loyalty-competency trade-off were theoretical papers that did not have access to the type of data that we have now (Egorov and Sonin 2011; Zakharov 2016). Furthermore, these papers did not have to explicitly define

the type of regimes they envisaged their theories would apply to nor did they have to define competencies in a way that could be measured empirically. For some autocrats, such as the Soviet Union under Stalin or China under Mao, we might see a pattern of replacing more technically competent with less technically competent ministers. In fact, looking at the rule of Idi Amin in Uganda, there is a decline in share of university educated ministers, from 60% in 1971 to 15% in 1978. In narrow circumstances these theories might hold some explanatory power. Nevertheless, it does not seem that this is a universal pattern that applies to all autocratic cabinets. More theory development is needed to understand how autocratic leaders value technical competency in their subordinates.

Similarly, if we look at Figure 7.1, which compares the share of university educated ministers in autocracies and democracies, we do not find support for the claim that autocrats hire more technocrats than democratically elected leaders (Bell 2015). In fact, it seems that until recently, democracies have had cabinets made up of higher educated ministers, on average, than autocracies. If anything, it appears from this graph that the share of ministers with higher education has historically been higher in democracies, although the difference has decreased over time. Only in the last few years have autocracies had more technically competent cabinets on average than democracies.

One way that autocratic leaders differ from democratically elected leaders in terms of their preferences for technical versus political competency, however, is in the way they promote ministers. Lee and Schuler (2020) finds that in autocracies, the more technically competent ministers, measured by education levels, are more likely to be promoted to cabinet positions than less technically competent ones. This is the case for low, mid- and high prestige positions. If autocrats indeed prefer more technically competent ministers for their cabinet positions, my findings of no statistically significant change in the technical competency levels over time is not surprising. Given that autocrats prefer to promote more technically competent over less technically competent ministers to cabinet positions, I would expect the technical competency level to remain relatively stable. In other words, if all autocrats want technically competent ministers all of the time, we would not see any variation over time.

Nevertheless, in a large-N global study that looks at all countries at the same time, I might not be able to account for specific events within each country that could affect the preference for more or less competent ministers. In their study of replacement of Central Committee (CC) members prior to, during and after the Cultural Revolution in China, Bai and Zhou (2019) find a significant drop in the education level of CC members between the 8th and 9th CC. The Cultural

Revolution was commenced after the 8th CC, as Mao consolidated his power by replacing the more competent CC members with less competent and threatening ones. Similarly, the average percentile military ranks of the CC military members dropped by more than 9% between the 8th and 9th CC (Bai and Zhou 2019). In the case of China in this period, there is indeed a systematic replacement of more competent ministers with less competent ones.

Autocrats may have a preference for different types of ministers when they are ruling under certain conditions. The findings of Aaskoven and Nyrup (2021) in their study of Nazi Germany before and during the war suggest that in the consolidation phase of a regime, subordinates who can deliver good economic performances are important. When the regime is consolidated or when it is trying to achieve ideological goals that require drastic measures, the need for these type of subordinates might subside. In exchange, the need for more loyal subordinates increases (Aaskoven and Nyrup 2021). The measurement of loyalty in this study, was whether or not subordinates had been convicted of war crimes in the trial following WWII (Aaskoven and Nyrup 2021). These are mechanisms that are harder to catch and measure when doing a cross-sectional study of different regimes at the same time, and that single-country studies are better at estimating.

A potential reason for why I am not able to find empirical support for the claims of the theoretical papers on the loyalty-competency trade-off could also be that I am not measuring the same type of competencies that these authors envisaged when proposing their theoretical arguments. Focusing on the promotion of elites in single-party regimes, Mirić and Pechenkina (2022) find that in China, provincial party leaders that were better able to keep social stability were also more likely to be promoted. The rulers in the party appear to prefer agents that are competent at limiting social unrest. Although this might be the case for all autocratic regimes, it is not something I am able to test for with the Paths to Power dataset. Single-country quantitative case studies could try this study in different contexts to test whether this is a competency that is mostly valued in China or in autocracies as a whole.

In this thesis, I am only measuring one side of the loyalty-competency trade-off. Measuring loyalty in a global study is close to impossible, although for single-country studies it is potentially more feasible. In the Aaskoven and Nyrup (2021) study, being convicted of committing war crimes is used as an indicator of loyalty. If one were to do similar single-country quantitative case studies for other countries, one could use similarly case-specific measurements of loyalty.

In this paper, I have focused on how the dynamics of the loyalty-competency trade-off, and the preference of different types of competencies in the candidates

autocrats choose for ministerial positions change over time. These mechanism do not only manifest in the selection of cabinet members, and in the next section I link the findings from this paper to the wider research on elite selection in autocracies.

7.2 The competency-loyalty trade-off beyond cabinets

One of the underlying assumptions of this paper is that the action taken by the autocrat is motivated by his wish to stay in power. Although this paper has focused mainly on how this shapes the choices of who the autocrat wants in his cabinet, the competency-loyalty trade-off is present in many of the hiring choices the leaders of autocratic regimes make.

In different parts of the state apparatus, the loyalty-competency trade-off manifests in different ways. In contrast to ministerial positions, where we see technically competent ministers are appointed and have a higher chance of being promoted, secret police forces tend to be dominated by agents that are characterised by being mediocre both in skill and intellect (Scharpf and Gläsel 2020). The type of candidates willing to work in the security forces differ from those wishing to work at the top of the ministries, and this is reflected in the data on secret police forces (Scharpf and Gläsel 2020).

As was discussed in the literature review, coup-proofing by only appointing incompetent subordinates to positions of power often leave the autocrats vulnerable to external threats such as invasion of foreign powers and military defeats. The threat that extensive coup-proofing poses is something that is identified in the theoretical papers (e.g. Zakharov (2016) and Egorov and Sonin (2011)), and that is also corroborated with empirical support in the study of military appointments (McMahon and Slantchev 2015). Coup-proofing too much, either by filling positions with less competent soldiers or making it harder for the forces to make decisions independently, makes the military less able to perform its duties efficiently, and thus leaves the regime vulnerable on the battlefield (Pilster and Böhmelt 2011). Again, similar to in the appointment of candidates to ministerial positions, filling the military and cabinets with only incompetent subordinates might reduce the potential threat that these elites pose to the autocrat, but it will not necessarily increase the chance of survival.

A type of governance that does seem to rely heavily on the loyalty of the political elites is rebel governance. In Houthi-controlled regions of Yemen, the leadership appointed supervisors loyal to the movement whose job was to supervise ministers and

others in the bureaucracy. Although they did not formally replace the state officials, "...they acted on behalf of the Houthi movement, 'relieving existing authorities of their duties or rendering them redundant'" (ACAPS 2020, 4). The supervisors for the higher the level officials, such as ministers, were chosen from the inner circle of Houthi loyalists (Al-Deen 2022), while lower levels were supervised by someone from the newly recruited pool of supporters (ACAPS 2020). In the case of rebel governance, it seems that loyalty is valued higher than the competency of the subordinates.

From this section, we see that the loyalty-competency trade-off can be applied to analyse appointments in many sectors of government, but there is still a lot left to learn. In the next section, I discuss the limitations to my research and the potential extensions beyond the scope of this thesis.

7.3 Limitation and extensions

The models in this thesis are a first attempt at using the new Paths to Power dataset to gain insight into cabinet compositions in autocracies and how these change over time. One of the main limitations of this thesis is that the sample in this paper is not randomly selected, and it is hard to imagine a counter-factual group of people to the ones that are included. This can be problematic, as the only people I see in my sample are the people who have made it into the position as dictators. Those who drop out of the sample, do so because they are no longer autocrats. There is no group of autocrats walking around that do not hold office, as those who no longer hold power are per definition no longer in the sample.

Therefore, the findings that I have in this paper are affected by the people I observe, namely the people who manage to become autocrats. Nevertheless, this paper is just a first venture in trying to learn more about how cabinet compositions change under the same leaders. Future research should find models that are better able to account for this sample selection issue, for example by using a sort of Heckman type selection model that can account for this potential source of bias.

Furthermore, the key independent variable of interest, the measure of the leader's years in power, is itself a product of time. This can lead to issues of endogeneity or reverse causality. The assumption of this paper is that autocrats want to stay in power, and this wish influences their choice of cabinets ministers. If the composition does indeed affect the leader's ability to stay in power, there is a potential source of reverse causality. Therefore, the results presented in this paper should only be seen as correlational, and not causal. It is also key to keep this in mind when interpreting the findings.

At the time that I conducted the analysis for this paper, I only had access to information on 45 autocratic countries. Although the data includes countries from almost all continents, we see from Table C.1 in Appendix C that there is an overweight of countries from the Middle East and North Africa. It can be hard to estimate whether and how this feature biases the estimate, but to get an idea of this the analyses should be replicated with the full data set when the collection process has been finished. It could be that the non-significant findings for the technical competency variable, for example, is due to not enough variation within the current dataset, and that this might change if more countries were added to the sample.

If this research project was to be extended, more efforts should be put into finding ways to account for these limitations in the modelling process. The linear regression with fixed effects used in this paper gives us an idea of how the cabinets change over time, and given that the regressions include both leader- and time-fixed effects the estimate of the regressions should be relatively conservative. This is because the leader- and time-fixed effects will catch a lot of the variation. Further model development will allow us to get an even better estimate of how leaders' time in power affect the choices they make of ministers.

Those dictators who drop out of the sample because they step down voluntarily or die while in power, has been able to win the power game by being able to remain in office and not being ousted. A potential extension of the analysis done in the paper is to look at the autocrats who were able to win the game of autocratic rule and see what things they have in common. In the sample included in this paper, the autocrats that were able to stay in power until they either stepped down or passed away include Sultan Qaboos of Oman, Zayed bin Sultan Al Nahyan of the United Arab Emirates, Kim Il-Sung of North Korea, Suharto of Indonesia and Nursultan Nazarbayev who resigned from his position as president of Kazakhstan in 2019. If we were to compare these leaders, we could see how they differ or are similar in their choice of subordinate appointments. That could potentially give us some insight into how autocrats manage to stay in power until they choose to resign. Likewise, looking at what the leaders who were removed through coups have in power can also give us an insight into what helps and hinders autocrats' ability to remain in power.

In this paper I rely on aggregates and look on how the competency levels of the whole cabinet changes over time. A potential extension is to disaggregate this, and instead look at which ministers are able to remain in office over time. Who are able to survive in office the longest? What characterises the most successful ministers in terms of how long they are able to keep their positions? Where Lee and Schuler (2020) look at who is more likely to be promoted, it would be a fruitful extension to also see who is more likely to remain in office as ministers the longest. Analysing

these questions would give us a better insight into what it takes to succeed as a political elite in autocracies.

The findings for the partisan regimes were quite surprising and counter-intuitive. In this paper I relied on Anckar and Fredriksson (2019)'s definition of personalist regimes. Their definition differs in ways that result in autocrats that might be thought of as personalist being defined as either military or party-based (Anckar and Fredriksson 2019). Furthermore, as discussed in the data section, it is possible for cabinets to change regime type under the same leader. This can result in some endogeneity in the estimations, as perhaps over time leaders are more likely to move from one regime type to another.

Due to the limited scope of this paper I was not able to include a replication of these findings with different conceptualisations of the regime types included in the study. In future extensions of this research, trying to replicate the findings of this paper using the Geddes, Wright, and Frantz (2014) dataset and their definition of personalist regimes could be a good test to see how much of the findings are driven by the different definitions and how much is caused by variation between the different regime types. Furthermore, to avoid the possible issue of endogeneity as regimes change regime type under the same leader, the dataset of Cheibub, Gandhi, and Vreeland (2010) on regime types could also be a good substitute, as they define the regime type by the background of the leader prior to entering the position of autocrat. That way you can remove the issue of cabinets changing regime type under the same leader. Although it is not a problem that affects my current sample that much, it could be a bigger problem when replicating this analysis with the full dataset once finished.

Similarly, different measures of competencies can help nuance our understanding of how autocrats choose their subordinates. In this paper I relied on a dichotomous measurement of university education as a measure of technical competency. The Paths to Power dataset also includes information on levels of education, majors and university names. Potential measurements of technical competency could include share of ministers who have attended a top 10 or top 100 ranked university. Another potential extension is to check whether the ministers have a relevant education for their positions. For example, does the health minister have an education in medicine? These are all measures for competencies that can be generated from the Paths to Power dataset.

Technical competency is not only a product of education; competency can be gained from different jobs and experiences. A potential measure of competency can be the type of occupation the minister had before entering politics, the years they have spent as a ministers or measuring ties to the military by looking at whether

they either have military education or spent the last ten years before entering politics in the military.

From the Aaskoven and Nyrup (2021) paper it became clear that the type of people who received promotions in Nazi-Germany changed between pre-war and during WWII. In this thesis I only look at general trends over time, but to look at how the different context leaders operate in change the type of ministers they choose, single-country quantitative case-studies are more suitable. Interesting cases to study could be Iraq under Saddam Hussein, looking at the periods before, during and after the Iran-Iraq War and the period before and after the first Gulf War. Similarly, looking at cabinet compositions in Syria under Bashar al-Assad before and during the civil war can give us insights into how civil wars affect cabinet compositions.

Although we are starting to know increasingly more about the mechanisms that shape autocrats' choices of subordinates, there is still a lot left to uncover. With the ever-increasing availability of information and data on political elites around the world, the type of questions we can start to answer with data are growing.

Chapter 8

Conclusion

In this thesis, my research is motivated by the following research question: *How do the competency levels of cabinets in autocracies change over time under the same ruler?* Drawing on existing theories on elite selection and promotion in autocracies, with a particular focus on the the loyalty-competency trade-off that autocrats face when appointing political elites in autocracies, I arrived at two main hypotheses.

The first hypothesis was that as the leaders' time in power increases, the political competency level of the cabinet decreases. The second hypothesis, meanwhile, was that as the leaders' time in power increased, we should either find a positive or no statistically significant correlation on the technical competency level of the cabinet. Using original data from the Paths to Power dataset with data on 45 authoritarian countries from 1966-2020, I tested these hypotheses first for a full sample before splitting the sample into different regime types. The way this was tested was through running linear regressions with time- and leader-fixed effects.

I measured political competency in three different ways. First, I used the combined measurement of ministers who had either held political office or been partisan without holding political office. Then I split the measurement into its two separate parts. For the full sample that included all the cabinets in the data, I find a negative and statistically significant correlation between the time leaders have spent in power and the share of ministers who are partisan without holding political office. For technical competency I measured the share of cabinet members that had university education. I found no statistically significant correlation for the time leaders stayed in power and the technical competency level of the cabinets. Thus, I found partial support for the first hypothesis and support for the second hypothesis.

When the sample was split into four, party-based regimes, personalist regimes, military regimes and monarchies, I find results that indicate that perhaps the mechanism of theoretical papers do not manifest in the same way for the different regime types. In party-based and military regime, as the leaders' time in power increases,

the share of ministers who have held political office before becoming ministers increases. In personalist regimes, this coefficient was negative. The share of partisan ministers, however, seemed to increase with the leaders' time in power. For monarchies, there was no statistically significant correlation between the leaders' time in power and any of the competency measurements. Corroborating the findings of Lee and Schuler (2020), I find that autocrats do not fear technical competent ministers, but that the preference for politically competent ministers is more nuanced and regime-specific.

The contributions of this thesis are both empirical and theoretical. The original data that I have been part of collecting and use in this thesis has provided me with the opportunity to empirically test many of the assumptions we have about promotions and political elites in autocratic regimes. The conceptualisations of different competencies I construct also allow us to measure these concepts systematically across different regimes and across time.

Combining the new data with the conceptualisations, the thesis contributes to our understanding of how elite selection and ministerial appointments work in autocracies. We see that leaders in the different regime types do not seem to replace the technically competent ministers with the less competent ones over time, thus showing that technically competent ministers can flourish in autocracies. If the governments in autocratic regimes are not able to develop as good policies as their democratic counterparts, it is not down to their cabinets being staffed by uneducated ministers. The finding that preference for different political competencies vary between regime types should be investigated further in future research so that we can understand even more about how these types differ.

Finally, country-specific studies should look at how events like civil and interstate wars affect the types of competencies and characteristics autocrats look for in their subordinates. As an increasing number of countries are experiencing autocratisation (Lindberg et al. 2022), we need more research to understand how these regimes operate. This thesis is a contribution to this conversation.

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Appendix A

Models without countries with high missingness

In the following four tables (A.1, A.2, A.3, and A.4), the dependent variable is abbreviated to DV while the standard errors are abbreviated to SE.

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	−0.0095* (0.0047)	−0.0096* (0.0045)	−0.0094* (0.0044)	−0.0095* (0.0044)	−0.0082 (0.0043)
log(GDP/capita)		0.0217* (0.0110)	0.0211 (0.0111)	0.0206 (0.0110)	0.0200 (0.0109)
log(Population)		−0.0186 (0.0626)	−0.0200 (0.0625)	−0.0215 (0.0623)	−0.0296 (0.0603)
Failed coup _{t−1}			−0.0206 (0.0202)	−0.0205 (0.0201)	−0.0197 (0.0204)
Mass mobilisation _{t−1}				−0.0031 (0.0077)	−0.0033 (0.0078)
Polyarchy					0.1498 (0.1098)
Num. obs.	1480	1312	1302	1302	1302
Num. groups: leader	152	138	134	134	134
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9286	0.9412	0.9412	0.9413	0.9416

Share political experience as DV, SE clustered by leader*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A.1: Models without countries with missing on political competency variable

1

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0095*	-0.0096*	-0.0094*	-0.0095*	-0.0082
	(0.0047)	(0.0045)	(0.0044)	(0.0044)	(0.0043)
log(GDP/capita)		0.0217*	0.0211	0.0206	0.0200
		(0.0110)	(0.0111)	(0.0110)	(0.0109)
log(Population)		-0.0186	-0.0200	-0.0215	-0.0296
		(0.0626)	(0.0625)	(0.0623)	(0.0603)
Failed coup _{t-1}			-0.0206	-0.0205	-0.0197
			(0.0202)	(0.0201)	(0.0204)
Mass mobilisation _{t-1}				-0.0031	-0.0033
				(0.0077)	(0.0078)
Polyarchy					0.1498
					(0.1098)
Num. obs.	1480	1312	1302	1302	1302
Num. groups: leader	152	138	134	134	134
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9286	0.9412	0.9412	0.9413	0.9416

Share ministers who have held political office as DV, SE clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A.2: Models without countries with missing on political competency variable
2

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0071**	-0.0070**	-0.0072**	-0.0073**	-0.0072**
	(0.0021)	(0.0024)	(0.0025)	(0.0024)	(0.0026)
log(GDP/capita)		0.0203	0.0209	0.0203	0.0202
		(0.0128)	(0.0126)	(0.0128)	(0.0129)
log(Population)		0.0231	0.0241	0.0226	0.0217
		(0.0266)	(0.0263)	(0.0263)	(0.0258)
Failed coup _{t-1}			0.0169	0.0169	0.0170
			(0.0214)	(0.0215)	(0.0215)
Mass mobilisation _{t-1}				-0.0033	-0.0034
				(0.0054)	(0.0054)
Polyarchy					0.0166
					(0.0957)
Num. obs.	1480	1312	1302	1302	1302
Num. groups: leader	152	138	134	134	134
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9337	0.9372	0.9372	0.9373	0.9373

Share partisan as DV, SE clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A.3: Models without countries with missing on political competency variable
3

	Model 1	Model 2	Model 3	Model 4
Years in power	−0.0059 (0.0038)	−0.0059 (0.0041)	−0.0058 (0.0040)	−0.0051 (0.0041)
log(GDP/Capita)		0.0241 (0.0240)	0.0233 (0.0238)	0.0231 (0.0237)
log(Population)		0.1341* (0.0551)	0.1327* (0.0549)	0.1303* (0.0572)
Failed coup _{t−1}			−0.0178 (0.0241)	−0.0173 (0.0241)
Mass mobilisation _{t−1}			−0.0013 (0.0043)	−0.0015 (0.0045)
Polyarchy				0.0677 (0.1272)
Num. obs.	1535	1342	1332	1332
Num. groups: leader	159	142	138	138
Num. groups: year	54	54	54	54
R ² (full model)	0.9045	0.9139	0.9132	0.9134

Share university educated as DV, SE clustered by leader, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table A.4: Models without countries with missing on technical competency variable

Appendix B

Models with different regime types

All models in this section include leader- and year-fixed effects. The dependent variables are abbreviated to DV while the standard errors are abbreviated to SE.

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0006 (0.0020)	-0.0048 (0.0032)	-0.0048 (0.0032)	-0.0051 (0.0032)	-0.0044 (0.0040)
log(GDP/capita)		0.1054*** (0.0263)	0.1033*** (0.0261)	0.1063*** (0.0270)	0.1057*** (0.0276)
log(Population)		-0.4151 (0.2306)	-0.4236 (0.2353)	-0.4494 (0.2356)	-0.4517 (0.2355)
Failed coup _{t-1}			-0.0330 (0.0369)	-0.0332 (0.0381)	-0.0329 (0.0393)
Mass mobilisation _{t-1}				0.0073 (0.0065)	0.0071 (0.0068)
Polyarchy					0.0491 (0.2030)
Num. obs.	456	385	385	385	385
Num. groups: leader	48	40	40	40	40
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8982	0.9268	0.9272	0.9276	0.9276

Share university education as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.1: Party-based regimes 1

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0006 (0.0035)	-0.0019 (0.0041)	-0.0019 (0.0041)	-0.0015 (0.0039)	-0.0025 (0.0043)
log(GDP/capita)		0.0606 (0.0362)	0.0606 (0.0362)	0.0547 (0.0376)	0.0557 (0.0381)
log(Population)		-0.1444 (0.2611)	-0.1442 (0.2622)	-0.0933 (0.2558)	-0.0893 (0.2549)
Failed coup _{t-1}			0.0008 (0.0224)	0.0013 (0.0247)	0.0007 (0.0255)
Mass mobilisation _{t-1}				-0.0144 (0.0103)	-0.0141 (0.0103)
Polyarchy					-0.0827 (0.1943)
Num. obs.	456	385	385	385	385
Num. groups: leader	48	40	40	40	40
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8956	0.9090	0.9090	0.9102	0.9103

Share ministers with political experience, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.2: Party-based regimes 2

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0049 (0.0029)	-0.0038 (0.0032)	-0.0037 (0.0031)	-0.0037 (0.0031)	-0.0023 (0.0038)
log(GDP/capita)		-0.0010 (0.0307)	0.0028 (0.0293)	0.0025 (0.0306)	0.0012 (0.0314)
log(Population)		0.1382 (0.2131)	0.1537 (0.2120)	0.1564 (0.1970)	0.1510 (0.1906)
Failed coup _{t-1}			0.0600 (0.0319)	0.0601 (0.0320)	0.0609 (0.0310)
Mass mobilisation _{t-1}				-0.0008 (0.0089)	-0.0012 (0.0085)
Polyarchy					0.1118 (0.1923)
Num. obs.	456	385	385	385	385
Num. groups: leader	48	40	40	40	40
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9663	0.9676	0.9682	0.9682	0.9683

Share of partisan ministers as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.3: Party-based regimes 3

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0062** (0.0020)	0.0061* (0.0026)	0.0060* (0.0026)	0.0062* (0.0026)	0.0048 (0.0035)
log(GDP/Capita)		0.0086 (0.0213)	0.0046 (0.0211)	0.0025 (0.0222)	0.0038 (0.0229)
log(Population)		0.0066 (0.2036)	-0.0093 (0.2058)	0.0088 (0.2039)	0.0142 (0.1953)
Failed coup _{t-1}			-0.0618 (0.0331)	-0.0616 (0.0321)	-0.0624 (0.0310)
Mass mobilisation _{t-1}				-0.0051 (0.0061)	-0.0047 (0.0060)
Polyarchy					-0.1115 (0.1516)
N	456	385	385	385	385
Num. groups: leader	48	40	40	40	40
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9656	0.9735	0.9740	0.9740	0.9741

Share of ministers who have held political office as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.4: Party-based regimes 4

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0019 (0.0062)	-0.0014 (0.0075)	-0.0015 (0.0076)	-0.0011 (0.0078)	0.0002 (0.0073)
log(GDP/capita)		-0.0032 (0.0080)	-0.0037 (0.0078)	0.0023 (0.0079)	0.0024 (0.0079)
log(Population)		-0.1115 (0.1624)	-0.1191 (0.1650)	-0.1296 (0.1526)	-0.1526 (0.1678)
Failed coup _{t-1}			-0.0261 (0.0177)	-0.0137 (0.0185)	-0.0112 (0.0191)
Mass mobilisation _{t-1}				0.0103* (0.0040)	0.0103* (0.0040)
Polyarchy					0.0958 (0.2133)
Num. obs.	361	288	281	281	281
Num. groups: leader	44	37	36	36	36
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8643	0.8907	0.8875	0.8916	0.8919

Personalist, share of ministers with university education as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.5: Personalist regimes 1

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0241 (0.0122)	-0.0173 (0.0127)	-0.0172 (0.0128)	-0.0171 (0.0128)	-0.0119 (0.0130)
log(GDP/capita)		0.0237*** (0.0058)	0.0239*** (0.0056)	0.0260* (0.0114)	0.0266* (0.0113)
log(Population)		0.1527 (0.1099)	0.1638 (0.1083)	0.1600 (0.1034)	0.0667 (0.0898)
Failed coup _{t-1}			0.0249 (0.0564)	0.0293 (0.0602)	0.0396 (0.0601)
Mass mobilisation _{t-1}				0.0037 (0.0108)	0.0036 (0.0105)
Polyarchy					0.3884 (0.2180)
Num. obs.	361	288	281	281	281
Num. groups: leader	44	37	36	36	36
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9094	0.9312	0.9315	0.9316	0.9332

Share of ministers with political experience as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.6: Personalist regimes 2

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0580*** (0.0138)	0.0636*** (0.0159)	0.0637*** (0.0160)	0.0632*** (0.0168)	0.0652** (0.0184)
log(GDP/capita)		0.0170 (0.0146)	0.0185 (0.0133)	0.0108 (0.0118)	0.0110 (0.0122)
log(Population)		0.3376* (0.1405)	0.3499* (0.1399)	0.3635* (0.1398)	0.3274* (0.1603)
Failed coup _{t-1}			0.0670 (0.0348)	0.0509 (0.0308)	0.0549 (0.0304)
Mass mobilisation _{t-1}				-0.0134* (0.0062)	-0.0135* (0.0064)
Polyarchy					0.1506 (0.3211)
N	361	288	281	281	281
Num. groups: leader	44	37	36	36	36
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9019	0.9261	0.9261	0.9284	0.9287

Share of ministers with partisan experience as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.7: Personalist regimes 3

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0834*** (0.0127)	-0.0863*** (0.0137)	-0.0864*** (0.0137)	-0.0859*** (0.0144)	-0.0815*** (0.0151)
log(GDP/capita)		0.0163 (0.0127)	0.0149 (0.0120)	0.0230 (0.0129)	0.0235 (0.0125)
log(Population)		-0.3494* (0.1529)	-0.3595* (0.1549)	-0.3737* (0.1469)	-0.4532* (0.1793)
Failed coup _{t-1}			-0.0590 (0.0363)	-0.0423 (0.0348)	-0.0335 (0.0345)
Mass mobilisation _{t-1}				0.0140 (0.0093)	0.0139 (0.0089)
Polyarchy					0.3307 (0.2249)
N	361	288	281	281	281
Num. groups: leader	44	37	36	36	36
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8085	0.8920	0.8952	0.8982	0.8998

share of ministers who have held political office as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.8: Personalist regimes 4

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0014 (0.0017)	0.0017 (0.0016)	0.0017 (0.0016)	0.0017 (0.0019)	0.0017 (0.0018)
log(GDP/capita)		0.0456 (0.0358)	0.0452 (0.0369)	0.0457 (0.0358)	0.0463 (0.0385)
log(Population)		0.2469 (0.2843)	0.2443 (0.2869)	0.2486 (0.2891)	0.2440 (0.3122)
Failed coup _{t-1}			0.0103 (0.0383)	0.0099 (0.0372)	0.0099 (0.0372)
Mass mobilisation _{t-1}				0.0010 (0.0095)	0.0009 (0.0089)
Polyarchy					0.0175 (0.2045)
Num. obs.	369	328	326	326	326
Num. groups: leader	44	40	38	38	38
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8412	0.8876	0.8876	0.8877	0.8877

Share university educated as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.9: Military regimes 1

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0171 (0.0123)	0.0280* (0.0119)	0.0280* (0.0119)	0.0269* (0.0127)	0.0267* (0.0126)
log(GDP/capita)		-0.0095 (0.0475)	-0.0108 (0.0482)	-0.0200 (0.0425)	-0.0120 (0.0375)
log(Population)		0.2156 (0.3933)	0.2083 (0.3958)	0.1331 (0.4335)	0.0706 (0.3618)
Failed coup _{t-1}			0.0286 (0.0154)	0.0356 (0.0203)	0.0361 (0.0195)
Mass mobilisation _{t-1}				-0.0180 (0.0159)	-0.0200 (0.0144)
Polyarchy					0.2363 (0.3367)
Num. obs.	369	328	326	326	326
Num. groups: leader	44	40	38	38	38
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8624	0.8795	0.8795	0.8827	0.8835

Share of ministers with political experience, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.10: Military regimes 2

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0023 (0.0108)	0.0134 (0.0077)	0.0134 (0.0077)	0.0124 (0.0078)	0.0122 (0.0078)
log(GDP/capita)		0.0550* (0.0248)	0.0544* (0.0249)	0.0458 (0.0232)	0.0519* (0.0229)
log(Population)		0.0275 (0.2535)	0.0240 (0.2535)	-0.0465 (0.2357)	-0.0944 (0.2480)
Failed coup _{t-1}			0.0137 (0.0111)	0.0203 (0.0128)	0.0207 (0.0123)
Mass mobilisation _{t-1}				-0.0169 (0.0089)	-0.0184 (0.0093)
Polyarchy					0.1810 (0.2476)
Num. obs.	369	328	326	326	326
Num. groups: leader	44	40	38	38	38
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8371	0.8659	0.8653	0.8707	0.8716

Share partisan as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.11: Military regimes 3

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0262*	0.0310*	0.0310*	0.0319*	0.0318*
	(0.0119)	(0.0144)	(0.0144)	(0.0147)	(0.0146)
log(GDP/capita)		-0.0772	-0.0791	-0.0713	-0.0678
		(0.0444)	(0.0454)	(0.0426)	(0.0361)
log(Population)		0.1883	0.1775	0.2415	0.2140
		(0.5720)	(0.5757)	(0.5813)	(0.5232)
Failed coup _{t-1}			0.0418	0.0358	0.0360
			(0.0228)	(0.0194)	(0.0193)
Mass mobilisation _{t-1}				0.0154	0.0145
				(0.0149)	(0.0150)
Polyarchy					0.1039
					(0.3603)
N.	369	328	326	326	326
Num. groups: leader	44	40	38	38	38
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8473	0.8619	0.8626	0.8652	0.8654

Share of ministers who have held political office, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.12: Military regimes 4

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	0.0616	-0.0045	-0.0001	0.0005	0.0001
	(0.0446)	(0.0371)	(0.0405)	(0.0410)	(0.0403)
log(GDP/capita)		-0.0293	-0.0301	-0.0299	-0.0299
		(0.0303)	(0.0307)	(0.0303)	(0.0303)
log(Population)		0.1158	0.1142	0.1144	0.1185*
		(0.0617)	(0.0613)	(0.0608)	(0.0509)
Failed coup _{t-1}			-0.0203	-0.0203	-0.0209
			(0.0287)	(0.0288)	(0.0300)
Mass mobilisation _{t-1}				0.0005	0.0010
				(0.0084)	(0.0086)
Polyarchy					0.0570
					(0.2896)
Num. obs.	433	416	415	415	415
Num. groups: leader	26	25	24	24	24
Num. groups: year	54	54	54	54	54
R ² (full model)	0.9430	0.9526	0.9521	0.9521	0.9522

Share university educated as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.13: Monarchies 1

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0836 (0.0420)	-0.0236 (0.0285)	-0.0284 (0.0316)	-0.0419 (0.0284)	-0.0427 (0.0296)
log(GDP/capita)		0.0465 (0.0422)	0.0473 (0.0419)	0.0435 (0.0398)	0.0436 (0.0398)
log(Population)		-0.0511 (0.0648)	-0.0494 (0.0660)	-0.0535 (0.0643)	-0.0446 (0.0699)
Failed coup _{t-1}			0.0218 (0.0205)	0.0228 (0.0202)	0.0216 (0.0202)
Mass mobilisation _{t-1}				-0.0123 (0.0103)	-0.0113 (0.0110)
Polyarchy					0.1226 (0.2225)
Num. obs.	433	416	415	415	415
Num. groups: leader	26	25	24	24	24
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8833	0.8944	0.8939	0.8947	0.8950

Share political experience as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.14: Monarchies 2

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	-0.0264 (0.0216)	-0.0433 (0.0215)	-0.0390 (0.0212)	-0.0417 (0.0212)	-0.0421 (0.0217)
log(GDP/capita)		0.0284 (0.0219)	0.0277 (0.0222)	0.0269 (0.0214)	0.0270 (0.0212)
log(Population)		0.0452 (0.0322)	0.0437 (0.0325)	0.0428 (0.0323)	0.0472 (0.0342)
Failed coup _{t-1}			-0.0195 (0.0173)	-0.0193 (0.0171)	-0.0198 (0.0167)
Mass mobilisation _{t-1}				-0.0024 (0.0089)	-0.0019 (0.0092)
Polyarchy					0.0591 (0.1093)
Num. obs.	433	416	415	415	415
Num. groups: leader	26	25	24	24	24
Num. groups: year	54	54	54	54	54
R ² (full model)	0.8576	0.8691	0.8691	0.8692	0.8695

Share partisan as DV, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.15: Monarchies 3

	Model 1	Model 2	Model 3	Model 4	Model 5
Years in power	−0.0556 (0.0443)	0.0401 (0.0375)	0.0283 (0.0400)	0.0136 (0.0376)	0.0127 (0.0387)
log(GDP/capita)		0.0394 (0.0492)	0.0413 (0.0480)	0.0373 (0.0467)	0.0374 (0.0470)
log(Population)		−0.1217 (0.0859)	−0.1175 (0.0872)	−0.1220 (0.0864)	−0.1122 (0.0903)
Failed coup _{<i>t</i>−1}			0.0535 (0.0319)	0.0546 (0.0326)	0.0533 (0.0326)
Mass mobilisation _{<i>t</i>−1}				−0.0134 (0.0165)	−0.0122 (0.0168)
Polyarchy					0.1350 (0.2617)
Num. obs.	433	416	415	415	415
Num. groups: leader	26	25	24	24	24
Num. groups: year	54	54	54	54	54
R ² (full model)	0.7499	0.7767	0.7762	0.7777	0.7784

Share political office as dependent variable, *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table B.16: Monarchies 4

Appendix C

List of countries included in the study

Country name	Years	Country name	Years
Algeria	1966-2020	Nigeria	1966-1978, 1983-2014
Argentina	1966-1982	North Korea	1966-2020
Azerbaijan	1992-2020	Oman	1966-2020
Bahrain	1971-2020	Philippines	1966-1985
Belarus	1994-2020	Poland	1966-1988
Chile	1973-1989	Portugal	1966-1975
China	1966-2020	Qatar	1971-2020
Cyprus	1966-1975	Russia	1999-2020
Egypt	1966-2020	Saudi Arabia	1966-2020
German Democratic Republic	1966-1989	Singapore	1966-2020
Greece	1967-1973	South Africa	1966-1993
Indonesia	1966-1998	South Korea	1966-1987
Iran	1966-2020	Spain	1966-1976
Iraq	1966-2020	Sri Lanka	1977-1993, 2010-2014
Jordan	1966-2020	Syria	1966-2020
Kazakhstan	1992-2020	Tanzania	1966-2020
Kenya	1979-2000	Tunisia	1966-2010, 2012-2014
Kuwait	1966-2020	Uganda	1966-1979, 1985-2020
Lebanon	1966-1970, 1976-2020	United Arab Emirates	1972-2020
Libya	1966-2020	Uzbekistan	1992-2020
Malaysia	1966-2020	Yemen (Yemen Arab Republic + Unified Yemen)	1966-2020
Mexico	1966-1999	Zambia	1966-2007
Morocco	1966-2020		

Table C.1: Countries included in this study