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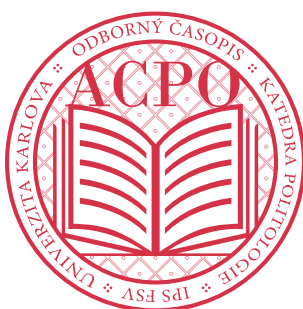
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## Presidential Power and Cabinet Design in Sub-Saharan Africa

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### Abstract:

*How do sub-Saharan presidents form and manage their cabinets? Previous research on intra-executive relations has focused predominantly on patterns of patronage. Although informal mechanisms remain relevant in the policy-making process, formal institutions have gained in importance in sub-Saharan Africa since the early 1990s. However, little is known about the link between presidents' constitutional power and their decisions to appoint, remove and reshuffle ministers. This article addresses this gap by analysing the impact of presidential power on three ministerial-level variables: ethnic cabinet composition, cabinet size and ministerial stability. Based on a framework combining formal and informal institutions, we argue that presidents use formal cabinet roles and relationships to employ informal power-sharing strategies. To capture presidential power, we construct a new index of eight powers specifically related to the presidential-ministerial relationship. The theoretical model is tested with a new dataset of 41 sub-Saharan African countries from 1990 to 2016. OLS regressions show that presidents with greater constitutional power form ethnically exclusive cabinets, increase cabinet size and raise minister stability, albeit the latter effect is not statistically significant. These findings shed new light on the impact of different institutional designs on intra-executive processes in general and, in particular, on presidential actions vis-à-vis cabinet ministers in sub-Saharan Africa.*

**Key words:** Presidential power; Sub-Saharan Africa; Constitutions; Cabinet design

### Introduction

How do sub-Saharan presidents form and manage their cabinets? To date, studies of executive politics in sub-Saharan Africa have largely focussed on informal patron-client relationships within the executive (Bratton, van de Walle 1997; Hyden 2006; Kieh 2018). Thereby, scholars explain variations in ministerial appointments and alternations by referring to the potential of presidents to offer patronage (e.g., Arriola 2009; Francois, Rainer, Trebbi, 2015; Kroeger 2020). This reasoning stems from the “big man rule” paradigm that attaches greater importance to personal relationships than to formal rules. However, a president’s informal power base also results from and is even reinforced by constitutional powers so that formal and informal institutions “work in tandem” (Riedl 2014: xiii). For example, former African presidents such as Frederick Chiluba (Zambia, 1991-2002), Daniel Arap Moi (Kenya, 1978-2002), and Bakili Muluzi (Malawi, 1994-2004) used their dismissal

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powers to keep ministerial power in check by frequently reshuffling cabinets. This implies that the prerogatives granted to presidents by constitutions matter. Nonetheless, comparative research on executives has largely disregarded constitutional presidential power<sup>2</sup> in its examination of cabinet design in sub-Saharan Africa.

The relative lack of attention paid to presidential decision-making on cabinets seems surprising given that an essential part of presidents' overall power relates to determining the composition and hierarchy of their cabinets. This paper sheds more light on this association by examining the influence of constitutional presidential power on three ministerial-level variables: ethnic cabinet composition, cabinet size, and ministerial stability. Sub-Saharan Africa thereby provides a particularly fertile testing ground. Across countries and time, both the number of ministers and frequency of their dismissals and reshuffles vary widely, but also the number of ethnic groups included in cabinets. However, it is unclear how these phenomena vary depending on different levels of presidential power.

Our main argument is that presidents use formal-institutional configurations both to engage in informal patterns of power-sharing and provide ministers with informal channels of influence. In the African context, cabinet ministers represent regional and ethnic interests of their electorate as "a kind of super-representative" (Zolberg 1969: 283; see also Kroeger 2020), constituting a vital source of support for presidents. We argue that this patronage mechanism plays a decisive role in the presidents' calculations when shaping their cabinets in several respects. First, presidents adopt an inclusive appointment strategy to appease competing ethnic groups by awarding government posts. Second, presidents expand cabinets by co-opting ministers and distributing both power and resources. Finally, if presidents perceive cabinet stability to be in peril, they exchange ministers to balance centrifugal political forces. Having these promising strategies in mind, presidents with stronger powers should gain greater benefits from ethnically diverse cabinets, larger cabinets, and higher ministerial fluctuation.

We test our propositions on the basis of time-series cross-sectional (TSCS) data for 41 sub-Saharan countries and 113 presidents between 1990 and 2016. For the purpose of our research question, we construct a new dynamic index of presidential power. We do this because existing indices (see Doyle 2020 for an overview) have limitations when examining such a specific association as the president-minister relationship. In our case, these coding schemes with their respective indicators allow no valid measurement (cf. Fortin 2013). Using OLS regressions with random effects, we find – contrary to our expectations – that presidents with greater constitutional power form less ethnically inclusive cabinets and dismiss and reshuffle fewer ministers. In fact, the latter effect is not statistically significant, meaning that presidents likely act on other motivations for taking action in cabinet management. These incentives particularly include the retention in office and accountability to election results. As expected, presidents do harness their constitutional powers to expand cabinet size, even though country-level controls exert a stronger effect. Overall, constitutions are an essential component of decision-making by sub-Saharan presidents regarding cabinet design.

This article makes several contributions to African executive research. Theoretically, our study places a greater focus on formal institutions and links them to arguments from the literature on patronage politics. Empirically, scholars have so far refrained from exploring the link between presidential power and cabinet design via constitutional powers. Similarly,

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<sup>2</sup> The terms "formal presidential power" and "constitutional presidential power" are used interchangeably.

there are hardly any studies taking a large-N perspective while longitudinal and multivariate analyses are by and large still missing (Morse 2018 is a notable exception).

This paper proceeds as follows. First, we present an overview of previous research on cabinet formation and management as well as on presidential power in sub-Saharan Africa. In a second step, we develop our theoretical model of the impact of presidential power on cabinet design. Thirdly, we introduce the data, index coding and methods before presenting the results of the statistical analysis. Finally, we briefly summarize our empirical findings and provide an outlook for further research on executives.

### **Intra-executive relationships and presidential power in sub-Saharan Africa**

In the mostly presidential or semi-presidential regimes of sub-Saharan Africa, presidents form the centre of political power (e.g., Prempeh 2008). The presidency comes with a vast range of constitutional prerogatives and extensive patronage networks. This plenitude of power has been reinforced not only by qualities of neopatrimonial rule (Bratton, van de Walle 1997; Chabal, Daloz 1999), but also by formal political institutions (Ndulo 2018; Posner, Young 2007). Concerning constitutional powers, the main power base of presidents vis-à-vis ministers is their ability to (re-)shape the cabinet. While presidents formally appoint and remove ministers, they informally follow transactional strategies to share power with other elites (Lindemann 2008; Wigmore-Shepherd 2019). Hitherto, the literature on intra-executive relations in Africa has primarily addressed informal mechanisms (see Wigmore-Shepherd 2019: 21-28). The prevalence of informal-oriented studies neglects the importance and interplay of formal and informal institutions as sources of presidential power (Akech 2011; Cheeseman 2018). Thus, only a few studies consider the effects of formal presidential power in sub-Saharan Africa.

The main interest in the literature on cabinet formation in Africa is centred on patronage and ethnicity as well as the distribution of political power. Hence, several studies use ministerial appointments as proxies of presidents' personal patronage networks and "big man" politics (Arriola 2009; Francois, Rainer, Trebbi 2015; van de Walle 2001). The empirical literature on presidential-ministerial relationship shows that presidents concerned with preserving power and clientelism tend to form more ethnically inclusive cabinets as well as larger cabinets (Arriola 2009; Arriola, Johnson 2014; Francois, Rainer, Trebbi 2015; Omgba, Avom, Mignamissi 2021; Raleigh, Wigmore-Shepherd 2020). As a deliberate power-sharing strategy, presidents form broad-based cabinets to ensure their political survival. As a resource-sharing strategy, they appoint ministers (of other ethnic groups) to powerless positions. Competing elites often embrace offers of accommodation not least due the privileged gateway to the executive branch and opportunities for personal and electoral benefits (Arriola 2009; Arriola, Johnson 2014). Changes in cabinet composition thus reflect the president's selective distribution of patronage and the associated access to state resources (Chabal, Daloz 1999; Posner 2005; van de Walle 2007). In addition to this procedure, presidents may also pursue exclusive strategies to favour members of their own ethnicity when facing internal threats (Lindemann 2011; Roessler 2011). Taken together, the cabinet formation literature reveals the need for research, as previous studies primarily have sought to explain the mechanisms behind presidents' cabinet formation without specifying the role of presidential prerogatives.

The literature on cabinet management in Africa also invokes patronage-driven explanations to examine interactions between presidents and ministers. In general, both personal and structural factors play an important role in how long ministers last in their posts (Fischer, Dowding, Dumont 2012). With respect to the former, sub-Saharan presidents with more government experience (Francois, Rainer, Trebbi 2014) and with backgrounds as rebel leaders (Ishiyama, Breuning, Widmeier 2018) are less likely to undertake ministerial changes. Hence, they prefer to work with a familiar and experienced team around them. Regarding the second strand of explanation, Migdal (1988) and Roessler (2011) highlight that presidents in patronage-based regimes should replace cabinet ministers more routinely to curb the establishment of competing power centres. In his study of 94 authoritarian leaders in 37 African countries, Kroeger (2020) shows evidence that ministerial stability varies by type of authoritarian regime: Leaders in dominant party regimes (e.g., Senegal, Zimbabwe) dismiss cabinet ministers less frequently than do those in personalist regimes (e.g., Burkina Faso, Chad). While research regarding the influence of constitutional powers on ministerial stability is still pending for sub-Saharan Africa, Martínez-Gallardo (2014) exhibits such an association for Latin America. She ascertains that strong decree powers increase the survival rate of ministers, whereas strong veto powers lead to more ministerial switches. In order to enforce their policies, presidents use ministerial changes as a function of their different powers vis-à-vis parliament. This implies that variations in the configuration of constitutions entail different political decisions by presidents. The cabinet management literature is primarily concerned with presidential characteristics, whereas the effects of formal presidential power remain widely unexplored.

Surprisingly, scholars have hitherto failed to establish a conjunction between cabinet design and formal presidential power, even though this type of power is a crucial factor in a president's influence over political outcomes. Only a handful of studies focus on formal presidential power in Africa as the main explanatory factor. Van Cranenburgh (2008) uses Siaroff's (2003) presidential power index and its classification of regime types to assess the power base of presidents in 30 countries. Across all regime types and compared to all other world regions, African presidents have the highest scores of presidential power, and there are no major differences between semi-presidential and presidential regimes. Using Shugart and Carey's framework (1992), Moestrup (2011) examines the impact of presidential power on democratic breakdown in 15 semi-presidential regimes. Consistent with bivariate results shown by Van Cranenburgh (2008), she finds that countries that experienced a democratic collapse exhibit higher presidential powers. Similarly, Morse (2018) addresses the link between presidential power and democratic consolidation. Applying Doyle and Elgie's (2016) presidential power (prespow) scores, he shows in the context of elections that presidents with strong formal powers do not inevitably encourage the acclimation of citizens with democratic principles (e.g., participation and competition). Analysing the non-legislative powers of Shugart and Carey's framework, Van Cranenburgh (2009) and Nijzink, Mozaffar and Azevedo (2006) indicate that African presidents enjoy high authority over cabinets while facing few institutional constraints by parliaments. Finally, the literature on coalitional presidentialism (Chaisty et al. 2014) approaches formal power as part of a presidential toolbox and mainly analyses the engagement of political parties in legislative-executive relations (on African governments, see Ariotti, Golder 2018; Ariotti 2021).

Four out of five studies concerning presidential power (except Morse 2018) have in common that they analyse descriptive relationships at a fixed point in time instead of

multivariate analyses and long-term trends. A large-scale perspective lends itself to measure temporal and spatial variations of presidential power. Beside these shortcomings in the analysis design, the indices used by these studies reveal some weaknesses. While Shugart and Carey's index does not capture well the power structure of semi-presidential systems, Siaroff's dichotomous coding scheme ignores the multiple variations across sub-Saharan constitutions. Furthermore, Doyle and Elgie's prespow-indices are only suitable for estimating general effects rather than effects of individual presidential powers. These three points illustrate that construct validity remains the main problem in the formation and application of presidential power indices. Our purpose in providing this critique is not to question the analytical value of these indices, but merely to emphasize that the construction of a new index is more fruitful for our research question. In conclusion, there is a need for empirical research on the link between constitutional presidential power and cabinet design in sub-Saharan Africa.

### **A model of presidential power on cabinet design**

In this section, we present a theoretical model outlining the influence of constitutional presidential power on cabinet design in sub-Saharan Africa. In African politics, presidents typically hold the dominant position in the policy-making process and have prevailing control over patronage and (state) resources (Kieh 2018; Prempeh 2008). Given this central role of presidents, we need to grasp the consequences of the power they wield. Following Hickman and Stoll (2008: 1110), we understand under presidential power "the degree to which power is concentrated in the presidency within the national level of government" as defined in constitutions. In our intra-executive model, presidents use their formal power in two ways. While cabinet formation simply reflects presidential appointment decisions, cabinet management here refers to the extent to which presidents undertake changes in the cabinet via replacements or reshuffles (see Ishiyama, Breuning, Widmeier 2018). In this regard, our arguments focus specifically on constitutional presidential power and the interaction between formal and informal institutions. This is not to deny the continued significance of informal mechanisms like patronage or corruption in Africa, but formal political institutions are not as insignificant as the "institutionless" school suggests (Cheeseman 2018: 30).

Starting with the National Conference in Benin 1990,<sup>3</sup> a growing importance of formal rules in sub-Saharan Africa is evident. As the third wave of democratization swept over the African continent in the early 1990s, the effects of and differences in formal institutions have played a significant role in assessing executive action. This paradigm shift, called "institutionalisation of political power" (Posner, Young 2007), went along with over 30 renewed or radically amended constitutions. In contrast, during the period of authoritarian regression in the 1970s and 1980s, informal practices of exercising power had a quasi-monopolistic position in African regimes (Cheeseman 2018; Hassan 2015). Despite these developments, the conventional wisdom holds that African presidents strongly shape political outcomes in a clientelistic manner. We challenge this view and follow the basic assumption of rational-choice institutionalism that formal institutions – constitutions, laws, etc. – influence the behaviour of political actors and the distribution of power among them (Hall, Taylor 1996). The written provisions find expression in actual presidential actions.

<sup>3</sup> Sparked by months of street protests, the National Conference set the stage for a peaceful transition of power and a new constitution in Benin. This event was the beacon for further regime transitions across Africa.

In this sense, constitutional provisions such as term limits or parliamentary control instruments limit the room for manoeuvre of presidents. Variations in the quantitative (number of powers) and qualitative (importance of powers) design of constitutions determine the possibility space for presidents to influence the cabinet.

Regardless of the specific political context, presidents are faced with significant coordination tasks in cabinet design. In accordance with Lindemann (2008) and Wigmore-Shepherd (2019), we assume that presidents view formal cabinet roles and relationships as instruments to pursue informal power-sharing strategies and establish informal channels of influence for ministers. Therefore, we argue that presidents use their constitutional powers to gain a personal advantage in decisions about cabinet composition, hierarchy, and change. For example, formal appointment powers provide African presidents with the opportunity to appoint individuals from their patronage networks to senior ministerial ranks and reward them accordingly (Van Cranenburgh 2008, 2009). Variations in presidential power levels yield different strategies and courses of action that presidents may apply in light of the respective regime-specific circumstances. Within the limits of their constitutional powers, presidents face choices about whether to form more ethnically inclusive or exclusive cabinets, larger or smaller cabinets, or to dismiss and reshuffle more or fewer ministers. The more power presidents hold overall through their constitutional prerogatives, the more likely they should be able to implement cabinet decision favourable to themselves (cf. Spörer 2004).

Ethnic composition of ministries is a key indicator of cabinet inclusiveness. Presidents take decisions in appointing ministers that reflect a more integrative approach with the balance of diverse ethnic group interests (Ishiyama, Breuning, Widmeier 2018; Raleigh, Wigmore-Shepherd 2020). Powerful presidents<sup>4</sup> occupy a key position in distributing political spoils (e.g., offices, rents), whereby they can cohere and stabilize multi-ethnic coalitions (Arriola 2009; Morse 2018; van de Walle 2007). Accordingly, decisions associated with cabinet appointments are a legitimate vehicle for addressing the concerns and demands of ethnic (minority) groups. Basically, presidents have two strategies at their disposal for ethnic cabinet composition: co-ethnic favouritism and catch-all bridging. The former promotes only one's own home group with political benefits. This active marginalization of all other ethnic groups minimizes the takeover-risk from within (Roessler 2011). The latter enables a variety of ethnic groups to actively participate in government work. This incorporation process helps presidents to ensure their own political survival and backing between elections through informal patronage relationships by avoiding disadvantages for certain ethnic groups in political representation. Given the fact that sub-Saharan Africa is composed of ethnically heterogeneous societies,<sup>5</sup> presidents ought to adopt an inclusive cabinet strategy to win political majorities. The integrative approach also facilitates the connection to local power brokers and mobilizes support for the government as a whole (Arriola 2009; Roessler 2011). In sum, powerful presidents should build inclusive cabinets to arbitrate contending ethnic aspirations. We therefore hypothesize:

**H1:** *Presidents with greater constitutional power form more ethnically inclusive cabinets.*

Cabinet size acts as an adjusting screw with which presidents coordinate the allocation of portfolios and regulate the political impact of senior elites. Presidents purposefully expand

<sup>4</sup> The term “powerful presidents” implies that presidents hold strong constitutional powers.

<sup>5</sup> Three-quarters of sub-Saharan countries do not have an ethnic majority (Fearon 2003).

their political base in the state and among the population by co-opting government critics or consulting representatives of certain ethnic or regional groups (Arriola 2009). An enlargement offers an effective vehicle to offset difficulties in cabinet formation. The fact that cabinet posts – unlike ministers – are divisible means that possible partisan, ethnic, or other bargaining problems can be resolved by presidents adding more ministries (see Indridason, Bowler 2014). Such a positional decoupling has the twofold effect of giving individual ministers less political power (Ongba, Avom, Mignamissi 2021) and appeasing disaffected elites. For example, in 2011, the Ministry of Labour, State Reforms & Relations with Institutions in Mali was split into three parts. Labour went to the incumbent Abdoul Wahab Berthe (party: URD, ethnicity: Senufo), State Reforms to Daba Diawara (PIDS, Sarakole) and Relations with Institutions to Abdoulaye Sall (Independent, Peul-Fulani). However, each minister added to the cabinet comes at a cost and thus can complicate the decision-making process. At the same time, creating additional posts that have inferior capacities but still possess official cabinet status allow presidents to largely integrate different elites. This is reflected in short lifespans and deficiencies in equipment and alignment of several ministries (Raleigh, Wigmore-Shepherd 2020). Altogether, powerful presidents should leverage their constitutional powers to expand cabinets in order to consolidate patronage-based leadership without major concessions as well as to represent multiple interests through more ministries. Hence, we expect:

**H2:** *Presidents with greater constitutional power increase the size of their cabinets.*

Finally, presidents utilize ministerial dismissals and reshuffles to adapt to altering political and social circumstances after and especially between elections. Presidents change their governmental course through selectively replacing individual or multiple ministers responsible for shaping a particular policy area. At the same time, such cabinet alternations offer presidents an opportunity to adjust their coalition of support by creating a new bargaining chip with additional elites (Martínez-Gallardo 2014). Dismissals and reshuffles are also strategic devices to scapegoat ministers for policy failures (Hansen et al. 2013). Presidents distinguish themselves as consistent actors to increase their popularity and gain more votes in the next election. However, frequent ministerial changes can impair ministers' ability to acquire expertise and implement government policies. Here, presidential interventions in cabinet management serve as a mediation tool (Kroeger 2020). While granting ministers leeway to accumulate power within a given portfolio, presidents dismiss maverick ministers or reshuffle them to less influential ministries. The discretion in decision-making depends on institutional permissions and constraints: Less constitutionally empowered presidents increase the ministerial duration in office (cf. Fischer, Dowding, Dumont 2012). During periods of neopatrimonial rule, African presidents with great informal leverage like Hastings Banda (Malawi), Ahmadou Ahidjo (Cameroon) or Félix Houphouët-Boigny (Côte d'Ivoire) often systematically engaged in the replacement of ministers (Bratton, van de Walle 1997). With a strategy of ministerial carousel, presidents prevent ministers from establishing their own power structures and threatening the president's political survival. Given these numerous advantages, powerful presidents should keep the duration of ministers in a portfolio low. We therefore hypothesize:

**H3:** *Presidents with greater constitutional power change ministers more frequently.*



Overall, we have theoretically outlined how institutional constraints and opportunities influence presidents' benefit-seeking behaviour. In the following section, we present the empirical design for testing this theoretical model.

## Data, variables and methods

Research on African executives lacks a systematic comparative data base that allows for appropriate coverage of countries and precise operationalization of variables necessary for conducting large N analyses (cf. Cassani 2021). To test our three hypotheses, we therefore gathered data from various data sources. Due to the lack of data availability regarding ethnic cabinet composition, we create two different samples. For H1, we use information on the ethnicity of ministers from the ACPEP (African Cabinet and Political Elite Data) dataset (Raleigh, Wigmore-Shepherd 2020). This record contains ministerial- and cabinet-month-level data for 20 sub-Saharan African countries from 1997 to 2017.<sup>6</sup> ACPEP is currently the most comprehensive dataset covering ministerial ethnicity. For H2 and H3, we use information on cabinet size and ministerial stability from the Who Governs dataset (Nyrup, Bramwell 2020) covering 177 countries from 1966 to 2016. Additionally, we rely on national constitutions to code the formal presidential powers.

Country coverage considers both democracies and non-democracies as well as presidential and semi-presidential systems in sub-Saharan Africa. We include three parliamentary regimes in which indirectly elected presidents either hold both the positions of chief executive and head of state (Botswana and South Africa) or fulfil more than just a ceremonial function (Mauritius). In terms of temporal coverage, countries enter the analysis if one of the following conditions is met: (1) the year 1990 (e.g., The Gambia), (2) the first multiparty elections (e.g., Cameroon 1992), or (3) the first democratically designed constitution (e.g., Mali 1992). By using 1990 as a starting year, we refer to the rise in importance of formal institutions that accompanied the transition to multiparty politics of many African countries at that time. In addition, we eliminate years when an interim president or the military was in power, and years when an interim constitution or no constitution was in place.<sup>7</sup> Given these considerations, our sample for H1 covers 18 sub-Saharan countries (1997–2016) and for H2 and H3 41 sub-Saharan countries (1990–2016).<sup>8</sup> In summary, we have built a new time-series cross-section-dataset, including a total of 924 country-years, 113 presidents, about 21,000 minister posts and 76 new constitutions or constitutional amendments (see Table 1).

<sup>6</sup> These 20 countries are Botswana, Burundi, Cameroon, Central African Republic, Democratic Republic Congo, Ethiopia, Guinea, Ivory Coast, Kenya, Liberia, Malawi, Mali, Nigeria, Rwanda, Sierra Leone, South Africa, South Sudan, Tanzania, Uganda, and Zimbabwe. Ethiopia and South Sudan are excluded from this sample (see fn. 7).

<sup>7</sup> Overall, we exclude 8 of the 49 sub-Saharan countries: Eritrea (constitution of 1997 has not been implemented yet), Eswatini (monarchy); Ethiopia (executive power not vested in president); Lesotho (parliamentary monarchy); Seychelles (missing data); Somalia (no president and civil war since 1991); Sudan and South Sudan (interim constitutions and civil wars).

<sup>8</sup> We choose the year 2016 as a single cut-off point based on the last year of Nyrup and Bramwell's dataset (2020) for most African countries. Following the authors, we refer to the month of July for each country-year.

**Table 1: Countries, periods and constitutions in the dataset**

Country	Years	Constitutions and amendments
Angola	1992-2016	1992, 2010
Benin	1991-2016	1990
Botswana	1990-2016	1966
Burkina Faso	1991-2014, 2016	1991, 2012
Burundi	1993-1996, 2005-2016	1992, 2005
Cameroon	1992-2016	1991, 1996
Cape Verde	1993-2016	1992, 1999
Central African Republic	1995-2003, 2005-2012	1994
Chad	1996-2016	1996
Comoros	1993-1998, 2003-2016	1992, 1996, 2001, 2009
Congo, Republic	1992-2016	1992, 2001, 2015
Congo, Democratic Republic	2006-2016	2005
Côte d'Ivoire	1991-1999, 2001-2016	1990, 1994, 1998
Djibouti	1992-2016	1992
Equatorial Guinea	1992-2016	1991, 1995, 2012
Gabon	1991-2016	1991, 1997
Gambia	1990-1994, 1997-2016	1987, 1996
Ghana	1993-2016	1992
Guinea	1992-2008, 2011-2016	1990, 2010
Guinea-Bissau	1991-98, 00-03, 06-08, 10-11, 14-16	1991, 1996
Kenya	1993-2016	1992, 2008, 2010
Liberia	1998-2003, 2006-2016	1986
Madagascar	1993-2008, 2014-2016	1992, 1998, 2010
Malawi	1994-2016	1994
Mali	1992-2012, 2014-2016	1992
Mauritania	1992-2005, 2007-2008, 2010-2016	1991
Mauritius	1992-2016	1991
Mozambique	1994-2016	1990, 2004
Namibia	1991-2016	1990
Niger	1993-1998, 2000-2009, 2011-2016	1992, 1996, 1999, 2010
Nigeria	2001-2014	1999
Rwanda	2003-2016	2003, 2010, 2015
São Tomé and Príncipe	1991-2016	1990, 2003
Senegal	1991-2016	1991, 2001
Sierra Leone	1996-2016	1996
South Africa	1996-2016	1996
Tanzania	1992-2016	1992
Togo	1993-2016	1992, 2002
Uganda	1996-2016	1995, 2005
Zambia	1992-2016	1991, 1996, 2016
Zimbabwe	1990-2016	1990, 2013
Countries = 41	Country-years = 924	Constitutions = 76

**Note:** Only constitutions and constitutional amendments are taken into account where at least one index indicator has changed. Constitutional amendments are in italics.

**Source:** Table created by authors.

## Operationalization

### Dependent Variables

We operationalize presidential cabinet formation (H1 and H2) and cabinet management (H3) using three dependent variables. For cabinet coding, we solely consider individuals with full ministerial rank and thus exclude posts such as deputy ministers and junior ministers from the analysis (Arriola 2009; LeVan, Assenov 2016). All three dependent variables refer to country-years as units of observation. Based on the ethnicity of ministers, *ethnic*

*cabinet composition* measures the proportion of ethnic groups represented in a cabinet out of all political relevant ethnic groups. This variable serves as a proxy for cabinet inclusiveness. Second, *cabinet size* reflects simply the number of cabinet ministers.<sup>9</sup> Third, *ministerial stability* measures the count of both ministerial dismissals and horizontal reshuffles. Here, no distinction is made between ministerial dismissals, deaths in office, and voluntary resignations, as these are randomly distributed (for more details, see Kroeger 2020: 88–89).

### Main Independent Variable – Presidential Power

To capture our main independent variable, we construct a new index of *presidential power*. Given different conceptualizations and operationalizations of presidential power, there is no consensus in the presidential studies literature on which constitutional powers specifically matter. Doyle and Elgie (2016: 740) advise scholars to conceive their own measure if testing a theoretical claim about a specific aspect of presidential power. We follow their suggestion and construct an index for presidential cabinet design that includes eight dimensions. While some codings are rooted on previous indices (e.g., veto), others have been made to respect finer gradations according to the configuration of constitutions and our research object. Table 2 lists our index indicators and Table A1 in the Appendix records the codings.

Drawing on limitations of existing power indices, we have made some key decisions for constructing our index. First, we restrict our index to constitutional powers to avoid endogeneity problems and strengthen reliability. Although presidential power includes both formal and informal components, quantifying the latter is extremely difficult (e.g., Fortin 2013; Doyle 2020). Constitutions can also be imperfect measures of actual political power (Siaroff 2003).<sup>10</sup> Yet, it offers the possibility for a broad cross-country comparison without using relatively imprecise proxies of presidential action. Second, we choose a multidimensional approach rather than dichotomous coding. Two measurement schemes typify this. The checklist method assigns a “1” if presidents have that power and a “0” otherwise. By contrast, the scaling method scores each power on an ordinal scale and then sums it to an overall value. Dimensions with gradations allow a more nuanced distinction of the extent of presidential power. However, we eschew Shugart and Carey’s framework because it captures presidential power in general (e.g., referenda), rather than its complex relationship to cabinet design. Third, we prefer a parsimonious set of valid and reliable items to exhaustive measures. Comprehensive indices comprise indicators that relate to different issues and thus diminish validity. Instead, all indicators of an index should capture a “single latent construct” (Fortin 2013). Our selected items are linked in a coherent theoretical way that pertain to intra-executive relations.

<sup>9</sup> Some cabinets have more ministries than individuals. For example, Abderaman Moussa held three ministries in Chad in 2004: Interior, Security & Decentralization, National Administration and Public Security & Immigration.

<sup>10</sup> Two examples should be given. Agreed in Cameroon’s 1996 constitution, the introduction of a senate was implemented in 2013. In Benin, Pascal Koupaki was prime minister from 2011–2013 without a constitutional basis.

**Table 2: Index of Presidential Power**

<p><b>(1) Appointing ministers</b>  4 Unrestricted  3 Appointment with restrictions  2 Requires proposal by prime minister  1 Requires approval by parliament  0 No appointment power</p> <p><b>(2) Dismissing ministers</b>  4 Unrestricted  2 Requires proposal by prime minister  0 No dismissal power</p> <p><b>(3) Personnel decisions prime minister/vice president</b>  4 President appoints and dismisses prime minister or vice president  3 President appoints and dismisses prime minister or vice president with restrictions  2 President only appoints prime minister or vice president  1 President only appoints prime minister or vice president with restrictions  0 President cannot appoint and dismiss prime minister or vice president</p> <p><b>(4) President-cabinet relationship</b>  (a) <i>Ministerial responsibility</i>  4 Only responsible to president  2 Responsible to president and parliament  0 Not responsible to president  (b) <i>Cabinet presidency</i>  4 Convene and preside over cabinet  2 Preside over cabinet  1 Requires proposal by prime minister  0 No such powers  (c) <i>Provisions towards ministers</i>  4 President determines duties of ministers  2 President determines structure of ministries  1 President acts after proposal by prime minister  0 No such powers</p> <p>The scores of the indicators are summed up and divided by three for the aggregated value of the dimension.</p> <p><b>(5) Dissolution of parliament</b>  4 Unlimited  3 Limited by frequency or timing  2 Requires consultation with other institutions  1 Limited to certain conditions  0 No provision</p> <p><b>(6) Vote of no confidence</b>  4 No provision  3 President may respond to vote of no confidence by dissolving parliament  2 Censure with at least two-thirds majority  1 Censure with at least absolute majority  0 Unrestricted</p> <p><b>(7) Veto/Override</b>  4 Veto cannot be overridden, or president can return a bill at least twice  3 Overriding by at least two-thirds majority  2 Overriding by at least absolute majority  1 Overriding by simple majority  0 No veto power</p> <p><b>(8) Decree</b>  4 Unrestricted powers  3 Requires prior authorization by the parliament  2 Requires ratification provisions  0 No decree power</p>
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**Source:** Table created by authors.

We briefly explain why we include the eight index items. The powers to (1) appoint and (2) dismiss ministers occupy centre stage in the index as they are the core requirements for presidents to make decisions on cabinet formation and management. With the (3) appointment and dismissal of the prime minister or vice president, presidents directly intervene in

the coordination of the cabinet.<sup>11</sup> The way presidents shape cabinets depends on several factors that determine their authority vis-à-vis ministers. Correspondingly, the dimension (4) “president-cabinet-relationship” combines the relational indicators (a) ministerial responsibility, (b) cabinet presidency, and (c) provisions towards ministers. The power to (5) dissolve parliament affects the cabinet composition in two ways. On the one hand, in some countries ministers are also members of parliament and, on the other hand, new parliamentary elections change the government majority and the possibilities for co-optation. Although the power to (6) pass a vote of no confidence does not rest with presidents, this procedure directly changes the cabinet composition: If ministers cannot be censured, only presidents can dismiss ministers. The presidents’ legislative powers also affect their appointment and dismissal decisions. With (7) vetoes, presidents can enforce their cabinet decisions against congressional majorities. With (8) decrees, presidents can unilaterally enact new cabinet laws without prior congressional delegation. Thus, vetoes and decrees<sup>12</sup> are key vehicles for presidents to negotiate with parliament on cabinet design. We use a scale of 0 to 4 to measure power manifestations in a particular dimension. This scaling system has proven to be a flexible scoring system that balances variation with parsimony. Higher scores indicate higher levels of presidential power.

### Control Variables

We include a number of variables in our analysis that may influence presidents’ cabinet decisions. First, we control for president-related attributes. The personal background of presidents before taking office shapes their behaviour towards elites. For example, presidents who had been rebel leaders tend to prefer to work with smaller, familiar teams, so that they rely on consistency and a few elites (Ishiyama, Breuning, Widmeier 2018); they will therefore change the composition of their cabinet less often. The variable *civilian* distinguishes between presidents with civilian careers and those with a military background or who were rebel leaders. Presidents may have trouble selecting ministers at the beginning of their term. We expect that longer-tenured presidents change cabinets less often, as they know better over time which aspirants are best suited for each ministry. The variable *tenure* simply measures the years a president has been in office. In general, presidents introduce more changes in cabinet size and composition after elections. The dummy variable *election year* captures whether presidential elections took place in a country-year or not.

Second, we control for cabinet characteristics. Constitutional provisions interact with the gendered process in cabinet design (Bauer, Darkwah 2021). Presidents aim to achieve more stability with a gender-balanced cabinet – as opposed to a strategy in which they design cabinets along ethnic or regional lines. The variable *gender* considers the percentage of female ministers among all cabinet ministers. In single-party governments, one party holds all cabinet positions, whereas in coalition governments several parties occupy cabinet positions. Under the former, presidents have fewer power restrictions than under the latter, allowing them to pursue their personal goals to a greater extent. The dichotomous variable *multiparty* reflects whether a coalition or a single party was in government. Both items are drawn from the Who Governs dataset (Nyrup, Bramwell 2020). The number of seats could be decisive for majority ratios in votes, passage of bills, or acceptance of

<sup>11</sup> When a country has both a prime minister and a vice president, we code the constitutionally stronger post.

<sup>12</sup> The dimension “Decree” refers to the president’s power to enact laws by decree.

ministers. Weak legislative support leaves presidents more vulnerable to demands from the opposition or own party members. The variable *seat share* indicates the percentage of seats held by the government majority in the legislature. Data come from the African Leadership Change dataset (Carbone, Pellegata 2020).

Third, we control for country-level characteristics. Due to the lower concentration of power and greater checks and balances, formal institutions are more likely to influence political outcomes under democratic than authoritarian regimes. We use the polity-2-scale of the *Polity V* project to measure the level of democratization (Marshall, Gurr 2020).<sup>13</sup> In ethnically heterogeneous countries, presidents have a greater incentive to integrate more ethnic groups in the cabinet. The *PREG* (Politically Relevant Ethnic Groups) measure (Posner 2004) gauges a country's ethnic diversity. Further, we consider the respective decades accounting for shifts in political context over time. At different phases of the regime – democratization (1990s), consolidation (2000s), and recession (2010s) – institutions vary in importance (Lynch/Crawford 2011). “1990s” serves as a reference category. The colonial history of African countries is closely related to their established regime types and constitutional systems. The former British colonies predominantly adopted presidential systems, while the former French and Portuguese colonies typically implemented semi-presidential systems. The dummy variable *anglophone* assigns a “1” to anglophone countries and a “0” to francophone and lusophone countries.

The African continent has experienced rapid population growth contributing to a differentiation of roles in government (Arriola 2009), to which presidents may respond with more modifications in the composition of their cabinet. The variable *logPopulation* grasps the increasing social complexity associated with demographic change. Finally, presidents with greater access to economic resources and rents effectively co-opt political opponents and appease the co-elites. The variable *logGDP* captures a regime's economic strength. Data were collected from the World Bank Indicators (World Bank 2021). Table A2 in the Appendix contains basic summary statistics for all variables in our sample.

## **Methods**

To examine the relationship between presidential power and cabinet design, we estimate multivariate ordinary least squares (OLS) regressions. This is a proper method if the data are arranged in panel format. Likewise, researchers use OLS rather than binomial regressions to capture the discrete number of ministers (e.g., Arriola 2009; Indridason, Bowler 2014). Prior to performing analyses, we assessed whether a pooled OLS regression, fixed effects model or random effects model was the most appropriate method for our panel data. The pooled OLS regressions yielded the most robust results in terms of the influence of presidential power on the dependent variables. However, by modelling country and time effects, both country heterogeneity and temporal dynamics must be considered. The grouped data structure necessitates a statistical procedure to account for these effects. As indicated by an F-Test and a Breusch-Pagan Lagrange Multiplier test, this problem cannot be solved with pooled OLS, but requires fixed effects or random effects models. Using a Hausman test, we determined that random effects are preferable to fixed effects for all dependent variables.

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<sup>13</sup> Countries are classified into three regime categories using an ordinal scale range (from -10 to +10): full democracies (7 to 10), partial democracies (1 to 6), autocracies (0 to -10).

Furthermore, we run three different types of robustness checks. First, we estimate negative binomial regressions, as these represent another variant to study the effects on discrete count variables (cf. Ishiyama, Breuning, Widmeier 2018; Kroeger 2020). Second, we conduct the analysis using Shugart and Carey's (1992) index to evaluate whether the creation of a new index is methodologically necessary or existing indices are sufficient to test our assumptions. Finally, we logarithmise each of our dependent variables to check for distinct levels of outputs.

## Analysis

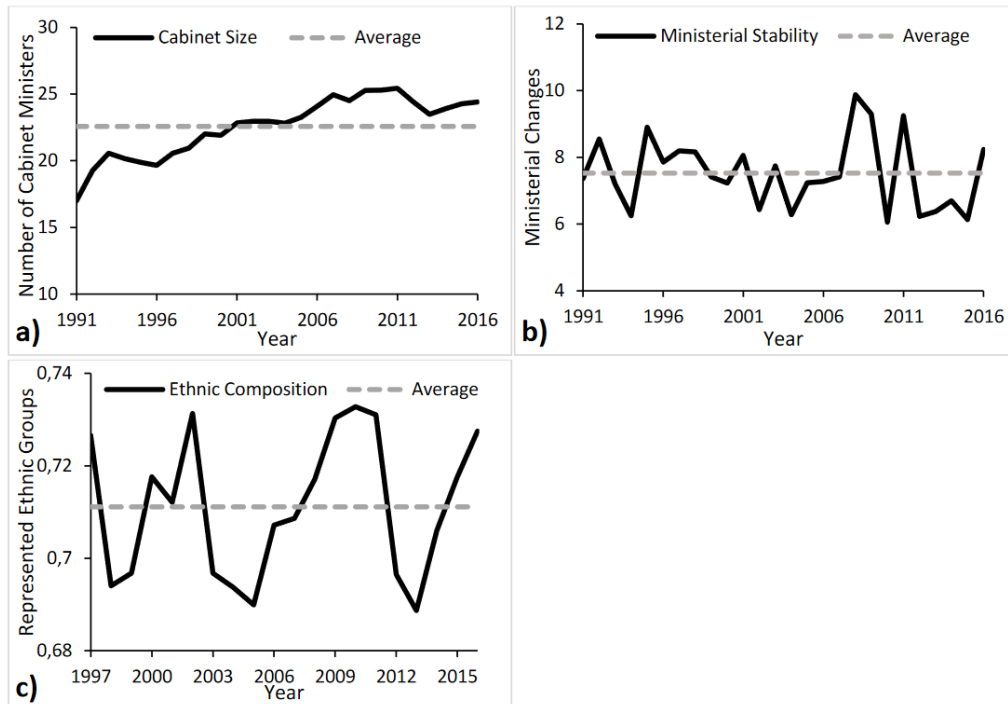
We begin our analysis with descriptive statistics on our four main variables to provide an initial overview about the variation across sub-Saharan countries and time periods. In a second step, we perform multivariate analyses testing our hypotheses. Lastly, we estimate several sensitivity analyses to examine the robustness of the results.

### *Descriptive Statistics*

Figure 1 shows the developments of cabinet size, ministerial stability and ethnic cabinet composition over the countries and periods covered by the dataset. To capture long-term trends, we calculated the average values for all countries in the sample by year. For this purpose, we added the absolute values of each country and divided them by the number of countries represented in a given year. The year 1990 was excluded as it only covers three cases.

The average cabinet size has increased almost steadily between 1991 and 2011 (Figure 1a). Cabinets were more compressed at the beginning of the 1990s, with a mean of 17 ministers in 1991. Thereafter, an upward trend became apparent until the end of the decade. The average number of ministers kept expanding in the 2000s, peaking at 25 in 2011. In the 2010s, a slight tendency towards cabinet downsizing is evident. Concerning ministerial stability, substantial fluctuations in reshuffles and dismissals have occurred over time (Figure 1b). Although considerable dispersion exists around the mean, the overall level of ministerial changes continued to decline. Whereas the average ministerial stability was 7.77 changes per year in the 1990s, it fell to 7.68 in the 2000s and to 7 in the 2010s. The peaks arise mainly when many elections are held in one year as many ministers leave at the end of a president's term. Finally, ethnic cabinet composition displays relatively low volatility over time (Figure 1c). The average number of ethnic groups represented in cabinets varies between 0.68 and 0.73. Phases of ethnic inclusion alternate with phases of ethnic exclusion. The proportion of ethnic groups represented in the cabinet increases in the early 2000s, late 2000s, and mid-2010s. Accordingly, alienation processes are present in the late 1990s, mid-2000s, and early 2010s.

Figure 1a-c: Cabinet size, ministerial stability and ethnic composition in sub-Saharan Africa



Source: Authors' illustration. The data for a) and b) comes from *Who Governs* and for c) from ACPEd.

Besides, major differences exist among African countries. Ethnic cabinet composition ranges from 2 (Burundi, Rwanda) to 16 groups (Kenya 2008–2011), cabinet size from 4 (the Comoros 2002) to 49 minister (Nigeria 2001) and ministerial stability from 0 to 41 ministerial changes (Nigeria 2004, 2008). The pivotal question is whether these divergences can be attributed to differences in degrees of presidential power or to other factors.

After describing the dependent variables, we now address our main independent variable. Across all sub-Saharan countries, the average presidential power score is 16.35, with 32 points being the maximum possible. Guinea's 1990 constitution yields the highest score of 25 points. Guinea's long-time ruler Lansana Conté (1984–2008) enjoyed the greatest presidential power on the continent. By contrast, Mauritius' 1991 constitution grants presidents the fewest powers, as reflected in a score of 9. The region covers a wide spectrum of presidential power. At times, 13 countries achieve a score above 20, while 7 countries remained below one-third of the total possible score throughout the time period. Especially East and South African countries are home to powerful presidents. Further, presidential systems exhibit higher scores than semi-presidential systems (18 to 14.5). In general, some distinctions prevail between anglophone and francophone constitutions. While the former contains no presidential decrees with legal force and mostly lack parliamentary dissolution powers, the latter often prescribe stronger settlements with other institutions. Constitutions occasionally vary widely also within countries. In Niger, for instance, the score was 23.33 under the 1996 constitution, and dropped markedly to 11.33 after reintroducing a semi-presidential system with the 1999 constitution. A counterexample is Angola, where the new constitution in 2010 led to a sharp rise in presidential power from 15 to 24.33. Figure A3 in the Appendix maps the quantile-based scores of presidential power.



### **Multivariate Statistics**

We now turn to multivariate statistics. For each hypothesis, we consecutively estimate five different models based on random-effects OLS regressions. Model 1 calculates the bivariate correlations between presidential power and our three dependent variables. Models 2–4 successively introduce the three control variable groups. Model 5 estimates the overall model.

Table 3 reports the empirical results for ethnic cabinet composition. Presidential power negatively affects cabinet inclusiveness in four of five models. Model 3 is the sole exception, so that multiparty government and party seat share are more important for the ethnic distribution of cabinet posts than constitutional power. Nevertheless, the overall result means that – contrary to the expected relationship as stated in H1 – the higher the formal presidential power, the more ethnically homogeneous the cabinets. In concrete terms, if power increases by about 10 to 11 index points, the percentage of representation of different ethnic groups in cabinet decreases by five. This result can be backed up by a few examples from the sample. In Uganda and Zimbabwe, presidents have great constitutional powers, but in both cases relatively few ethnic groups are represented in the cabinet. In Botswana – a country with high presidential power – many ethnic groups do not gain cabinet status. In contrast, Malian presidents possess half as much power, but they incorporate more than twice as many ethnicities in cabinets. Similarly, the presidents in Liberia and South Africa vest limited formal powers, but their cabinets contain an above-average number of ethnic groups.

Among the control variables multiparty, seat share, GDP, population and the 2000s and 2010s decades have significant effects. As presidents face more parties in cabinet, they form more ethnically inclusive cabinets. Unlike the president's party, other parties are more ethnically diverse or dominated by other ethnic groups. The size of legislative seat share exerts a negative effect. When ruling parties hold greater majorities in parliament, presidents tend to ostracize more ethnicities from cabinet. In times of economic prosperity, presidents also strive to ensure that their ethnic group benefits more and thus distribute resources among fewer ethnic groups. In addition, cabinet inclusiveness decreases in more populous countries (Model 5), while in the 2000s and 2010s more ethnic groups on average were included in cabinets (Model 4). Thus, our hypothesis that presidents use their power for an ethnic participation strategy cannot be confirmed. Powerful presidents prefer co-ethnic favouritism to catch-all bridging. This result must however be considered against the background of missing data. Unfortunately, the ACPEd data cover only less than half of our country sample and two-thirds of the period under consideration. But there is no bias with respect to presidential power.

Table 4 provides the empirical findings for cabinet size. Models 1–3 clearly demonstrate that presidential power positively influence cabinet size. Hence, the more powerful presidents are, the larger cabinets they form. If presidential power increases by about five to six index points, the cabinet grows by one minister. Nonetheless, this effect loses explanatory power in Models 4 and 5 due to the large influence of country-level variables on cabinet size. Overall, many countries correspond to the expected linkage. Island states presidents (Cape Verde, Comoros, São Tomé and Príncipe) enjoy less constitutional power, which entails in the formation of smaller cabinets. The relatively powerful presidents in Cameroon and the Republic of Congo bolstered their cabinets with additional ministers. Such positive relationships likewise emerge within countries. In Guinea-Bissau, reducing presidential power leads to smaller cabinets. In Togo and Madagascar, strengthening presidential power results in larger cabinets. Kenya provides a striking example. While Mwai Kibaki (2002–2013)

was endowed with vast powers and included more ministers, his successor, Uhuru Kenyatta (2013–2022), was constitutionally weaker due to greater legislative control and decimated the number of ministers (from an average of 30.8 to 18.5 cabinet ministers). A similar phenomenon can be seen in Côte d'Ivoire.

Country characteristics are crucial in deciding whether presidents expand their cabinets. Countries that were formerly British colonies maintain smaller cabinets (on average three fewer ministers) than francophone and lusophone countries. Presidents in anglophone countries are often restricted in choosing ministers as they are required to be MPs. Moreover, a larger population facilitate cabinet enlargements. As already seen descriptively, presidents appointed approximately two more ministers into cabinet in each of the 2000s and 2010s compared to the 1990s. However, not only country variables offer substantial and significant effects. Presidents who have been longer in office establish larger cabinets. Further, civilian presidents add more cabinet ministers, whereas presidents with military experience and ex-rebel leaders tend to work with small, trusted ministerial teams. Multiparty governments contain on average about two more ministers than do single-party governments. Altogether, our hypothesis can be confirmed. Powerful presidents seek to represent multiple interests and allow numerous ministers to share in the political spoils. Nevertheless, they pay attention to country factors and make their decisions particularly in light of macro developments.

Table 5 presents the empirical results for ministerial stability. The coefficients of presidential power are negative in all models. This initially implies that more powerful presidents dismiss and reshuffle fewer ministers than less powerful ones do. However, the effect is significant in Model 4. Presidential power is correlated with the number of ministerial changes only when other country-level factors are considered and thus has no independent influence. Several countries show a contrary relationship to our expectation regarding ministerial stability. Mozambique illustrates the extreme case. Although the regime exhibits some of the highest presidential power scores (22.66 and 23.33), only 13 reshuffles and 23 dismissals in non-election years took place. The low level of alternation coupled with powerful presidents is salient. In Namibia, presidents made on average 3.6 changes per year, and Djibouti's president Ismail Omar Guelleh often left his cabinet untouched during his tenure. Ghana and Mali exemplify the opposite case. Here, many ministerial changes occur, although presidents are vested with rather limited powers. To sum up, powerful presidents prefer some consistency and leave ministers with a certain power base, but robust evidence to support this conjecture is lacking.

Among the controls, presidential election years stand out in particular. Presidents reshuffle about eight more ministers after elections than in non-election years. In addition, longer-tenured presidents carry out fewer reshuffles. One reason might be that presidents become more accustomed to the work of their appointed ministers over time. In multiparty cabinets, presidents reshuffle on average one minister more than in single-party cabinets. This difference also applies to countries with large populations compared to low-population countries. The variables Polity and the 2010s show significance only in Model 4. Thus, our hypothesis that powerful presidents change more ministers cannot be confirmed. One possible explanation for this outcome is that minister dismissals and reshuffles are not studied separately. Although dismissals (significantly negative) and reshuffles (insignificantly positive) differ in their bivariate association with presidential power, these divergences disappear multivariately.

**Table 3: Presidential Power and Ethnic Cabinet Composition**

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Presidential power	-0.005 <sup>†</sup> (0.003)	-0.005 <sup>†</sup> (0.003)	-0.003 (0.003)	-0.004 <sup>†</sup> (0.003)	-0.004 <sup>†</sup> (0.003)
Tenure		0.001 (0.001)			0.001 (0.001)
Civilian		0.014 (0.014)			-0.004 (0.015)
Election year		0.007 (0.011)			0.009 (0.010)
Gender			0.001 (0.001)		0.001 (0.001)
Multiparty			0.041** (0.016)		0.046** (0.018)
Seat share			-0.002*** (0.000)		-0.002*** (0.000)
Polity				0.003 (0.002)	0.001 (0.002)
PREG				0.006 (0.234)	0.039 (0.263)
Anglophone				-0.069 (0.081)	-0.060 (0.092)
logGDP				-0.065* (0.032)	-0.060 <sup>†</sup> (0.034)
logPopulation				-0.042 (0.030)	-0.074 <sup>†</sup> (0.043)
2000s				0.029 <sup>†</sup> (0.015)	0.013 (0.015)
2010s				0.049** (0.019)	0.032 (0.020)
Constant	0.788*** (0.059)	0.778*** (0.061)	0.826*** (0.071)	1.910*** (0.541)	2.458*** (0.588)
R-squared	0.011	0.016	0.119	0.060	0.151
Observations	319	319	315	317	313

**Source:** Authors' calculations. Random-effects OLS regression. Standard Errors in parentheses. <sup>†</sup> $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

**Table 4: Presidential Power and Cabinet Size**

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Presidential power	0.195** (0.063)	0.177** (0.063)	0.257*** (0.065)	0.111† (0.060)	0.112† (0.063)
Tenure		0.067** (0.022)			0.057* (0.023)
Civilian		1.614*** (0.446)			0.674 (0.472)
Election year		0.032 (0.328)			-0.065 (0.346)
Gender			0.083*** (0.017)		-0.028 (0.022)
Multiparty			2.206*** (0.412)		1.799*** (0.497)
Seat share			0.012 (0.010)		0.016 (0.011)
Polity				0.039 (0.053)	0.010 (0.057)
PREG				4.068 (2.750)	3.153 (2.511)
Anglophone				-3.630** (1.153)	-2.669* (1.064)
logGDP				0.437 (0.406)	0.303 (0.396)
logPopulation				2.934*** (0.469)	2.885*** (0.435)
2000s				2.212*** (0.375)	2.072*** (0.399)
2010s				2.161*** (0.475)	2.062*** (0.505)
Constant	19.971*** (1.393)	18.679*** (1.429)	15.367*** (1.603)	-29.233*** (8.082)	-30.252*** (7.623)
R-squared	0.025	0.041	0.085	0.223	0.252
Observations	924	924	908	804	790

**Source:** Authors' calculations. Random-effects OLS regression. Standard Errors in parentheses. † $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

**Table 5: Presidential Power and Ministerial Stability**

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Presidential power	-0.128 (0.087)	-0.089 (0.082)	-0.072 (0.085)	-0.178* (0.082)	-0.113 (0.071)
Tenure		-0.073* (0.035)			-0.068† (0.039)
Background		0.590 (0.681)			0.656 (0.669)
Election year		7.539*** (0.597)			8.143*** (0.664)
Gender			-0.005 (0.030)		-0.025 (0.035)
Multiparty			1.379* (0.698)		1.299† (0.667)
Seat share			-0.002 (0.017)		0.015 (0.018)
Polity				0.142† (0.076)	0.012 (0.076)
PREG				1.369 (2.043)	0.930 (1.626)
Anglophone				-0.958 (0.870)	-0.653 (0.727)
LogGDP				-0.561 (0.400)	-0.336 (0.337)
LogPopulation				0.992** (0.378)	0.952** (0.301)
2000s				-0.399 (0.726)	0.262 (0.703)
2010s				-1.457† (0.820)	-1.207 (0.814)
Constant	9.742*** (1.480)	8.044*** (1.490)	8.096*** (2.081)	-0.751 (7.320)	-5.593 (5.930)
R-squared	0.011	0.168	0.015	0.043	0.219
Observations	924	924	908	804	790

**Source:** Authors' calculations. Random-effects OLS regression. Standard Errors in parentheses. † $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

### **Robustness Checks**

With respect to distinct modelling and specification choices, we evaluate two other estimation frameworks and one alternative scenario. The Tables A4–A6 in the Appendix show the results of robustness checks. Given that two of three dependent variables represent discrete numbers per year, count models also afford a suitable estimation procedure. The results of the negative binomial regressions roughly correspond to those of the pooled OLS regressions (not shown here) and thus deviate considerably from the findings of the random effects models (Table A4). The analyses display that many variables become statistically significant by applying these model specifications. It can be concluded that negative binomial regressions may be inadequate to study spatial and temporal effects on cabinet design.

Moreover, we logarithmise our three dependent variables to control for susceptibility to outliers (Table A5). In effect, the results hardly change across the models. The number of statistically significant variables changes by two each for ethnic cabinet composition and cabinet size, while the direction of influence of presidential power remains unchanged. In contrast, the effect of presidential power on cabinet size is no longer significant, due to the strong influence of country-level variables. When these variables are removed from the model, presidential power regains significant explanatory power (coefficient of 0.09 at the .01 level). In the minister stability model, over 200 observations get lost due to country-years in which presidents neither dismiss nor reshuffle ministers (logarithm of 0 is undefined). Consequently, these results bear limited comparison with those in Table 5. Finally, we test the robustness of our theoretically derived presidential power index. Using Shugart and Carey's index, the results alter for our main independent variable, even though the goodness of fit of the respective models is at a similarly level (Table A6). The scores for presidential power lose statistical significance in case of ethnic cabinet composition, point in the opposite direction in case of ministerial stability, and are overestimated in their substantial influence in the cabinet size model. These differences arise despite the high correlation of the two indices with each other (Pearson's  $r = 0.722$ ). This suggests that Shugart and Carey's measure is not equally appropriate for studying cabinet design in sub-Saharan Africa.

### **Conclusion**

This article breaks new ground by examining the link between constitutional presidential power and cabinet design in sub-Saharan Africa, thus providing a more direct look at formal institutions. While the role of informal mechanisms is pointed out to be critical for policy-making in African countries, so far only a few empirical studies determine the factors behind cabinet formation and management. Therefore, the present study ascertains the effect of constitutional presidential power on different intra-executive variables. The distinct designs of constitutions provide a unique opportunity to comparatively examine the factors that drive dynamics within the executive. Based on the observation that formal institutions and rules have become more important over the last three decades, we developed a theoretical model combining constitutional powers and informal power-sharing strategies. Out of this, we hypothesized that powerful presidents (1) form more ethnically inclusive cabinets, (2) increase cabinet size, and (3) dismiss and reshuffle ministers more often. To empirically investigate our propositions, we introduced a new index of presidential power and built a new time-series cross-sectional dataset.

Our analysis suggests that powerful presidents form more ethnically exclusive cabinets and dismiss and reshuffle ministers less frequently. Both effects contradict our expectations. On the one hand, sub-Saharan presidents tend to advocate exclusive politics that benefit few political relevant ethnic groups. This finding contrasts with the results of previous empirical studies, which indicate more ethnically inclusive cabinets (e.g., Francois, Rainer, Trebbi 2015; Raleigh, Wigmore-Shepherd 2020). Important reasons for this finding are primarily differences in the empirical design in terms of country selection, independent variables, and time interval. On the other hand, the degree of presidential power exerts little impact on the extent to which presidents intervene in cabinet management. Constitutionally powerful presidents seem to replace ministers less, which differs from their “big man” counterparts before democratic liberalisation. The results for cabinet size confirm our expected relationship. An increase in presidential power goes hand in hand with an increase in cabinet size; while this finding is in line with the literature, country-level factors like time period, colonial background and population size are most striking in their impact (Arriola 2009; LeVan, Assenov 2016). The ultimate conclusion is that constitutions play a certain role in cabinet design, but other factors (e.g., tenure of presidents, partisan cabinet composition) matter sometimes more to presidents when faced with decisions of whom to appoint, dismiss or reshuffle.

This article naturally exhibits some limitations. Relations between ministers and presidents might consist mainly of informal connections. Although informal presidential power plays an important role in African political systems, its actual influence can only be approximately determined through proxies or expert assessments. Where political reward systems rely on clientelistic favours, formalistic approaches may not yield intended consequences, unless they also tackle these underlying dynamics. A general problem with studies about Africa is the availability of appropriate data. With respect to our study, data on ministerial ethnicity is only available for certain countries and time periods. Furthermore, some ministerial-level variables must be excluded from the analysis due to insufficient information. In this context, variables like portfolio salience or partisan distribution of ministries could regard further variations in terms of presidents’ strategies for forming their cabinets. Finally, the results on ethnicity may be skewed because more than half of the countries in the sample and the period shortly after the transition to democracy are missing. However, wide deviations exist among authors in quantifying ethnic groups (Fearon 2003; Posner 2004).

There is a need for future research in four ways. First, studies on African executives should follow our approach and conduct large N analyses capturing broad political trends on the African continent. This type of research design is important in order to test the generalizability and strength of the many causal mechanisms qualitatively brought forth. It also provides the foundation for variation in the study of presidential power. Second, interaction effects between our dependent variables could be estimated to more precisely reflect presidential strategies. For example, Omgba, Avom and Mignamissi (2021) note a strong correlation between cabinet inclusiveness and cabinet size. Third, a growing research field concerns gender in politics. Therefore, future studies can also examine theoretical arguments linking presidential power and gender inclusivity. Finally, studies can compare the impact of constitutional presidential power on presidential appointment and dismissal decisions with other geographical areas (e.g., Latin America or Southeast Asia) and gauge to what extent the results are relevant beyond sub-Saharan Africa. Although further research is required, the evaluation of constitutions is a crucial step to gain a more nuanced understanding of the impact of presidential power on cabinet design.

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## Appendix:

### **Supplementary Remarks on the Coding of Index**

Appointment with restrictions in the first dimension “Appointing ministers” refers to the number of ministers, gender, ethnicity, region, age and only members of parliament. In the third dimension “Personnel decisions prime minister/vice president” constitutions that neither provide for a prime minister nor a vice president receive a score of 4. Here, restrictions refer to appointments (1) from the majority party, (2) with the confirmation of parliament, and (3) on the proposal of the majority party. The score 1 in the sixth dimension “Dissolution of parliament” relates to after vote of no confidence, lead to presidential elections or in the event of a serious political crisis. The codings were carried out independently by both authors.

**Table A1: Coding of Presidential Power Scores**

Constitutions	1)	2)	3)	4a	b	c	4)	5)	6)	7)	8)	Total
Angola 92	2	2	3	2	4	0	2	2	1	3	0	15
Angola 10	4	4	3	4	4	2	3.33	1	4	3	2	24.33
Benin 90	4	4	4	4	2	4	3.33	0	4	2	0	21.33
Botswana 66	3	4	3	4	2	0	2	4	3	1	0	20
Burkina Faso 91	2	2	4	0	2	0	0.67	2	1	1	3	15.67
Burkina Faso 12	2	2	3	0	2	0	0.67	2	1	1	3	14.67
Burundi 92	2	2	4	2	2	0	1.33	2	1	3	0	15.33
Burundi 05	3	4	3	4	2	0	2	4	2	3	0	21
Cameroon 91	4	4	4	4	2	4	3.33	0	4	1	2	22.33
Cameroon 96	2	4	4	0	4	4	2.67	2	2	2	2	20.67
Cape Verde 92	2	2	3	0	1	0	0.33	1	1	1	0	10.33
Cape Verde 99	2	2	1	0	1	0	0.33	1	1	2	0	9.33
Cental African Rep. 94	2	2	4	0	4	0	1.33	2	1	3	2	17.33
Chad 96	2	2	2	0	2	0	0.67	1	1	1	0	9.67
Comoros 92	2	4	3	2	2	1	1.67	2	1	1	0	14.67
Comoros 96	2	4	4	0	2	0	0.67	2	1	1	0	14.67
Comoros 01	3	4	0	0	0	0	0	0	4	2	0	13
Comoros 09	3	0	0	0	0	0	0	2	2	2	3	12
Congo. DR 05	2	2	1	0	4	0	1.33	1	1	2	0	10.33
Congo. Republic 92	2	2	1	2	2	0	1.33	1	1	1	0	9.33
Congo. Republic 01	4	4	4	4	2	4	3.33	0	4	3	2	24.33
Congo. Republic 15	2	2	4	0	2	4	2	2	2	3	0	17
Côte d'Ivoire 90	2	2	2	0	2	0	0.67	0	4	3	0	13.67
Côte d'Ivoire 94	2	2	2	0	2	0	0.67	0	4	3	2	15.67
Côte d'Ivoire 98	2	2	4	0	2	1	1	0	4	3	2	18
Djibouti 92	2	4	4	4	2	4	3.33	0	4	0	0	17.33
Equatorial Guinea 91	2	2	4	4	4	0	2.67	4	4	0	3	21.67
Equatorial Guinea 95	0	0	2	2	4	0	2	4	4	0	3	15
Equatorial Guinea 12	4	0	1	2	4	0	2	4	4	0	3	18
Gabon 91	2	2	3	2	4	0	2	2	1	3	0	15
Gabon 97	2	2	4	2	4	0	2	2	1	3	0	16
Gambia 87	3	4	3	4	2	2	2.67	4	4	3	0	23.67
Gambia 96	3	4	4	4	0	0	1.33	0	2	3	0	17.33
Ghana 92	1	4	0	0	4	0	1.33	0	2	3	0	11.33
Guinea 90	4	4	4	4	0	4	2.67	2	4	3	2	25.67
Guinea 10	4	4	4	0	2	1	1	2	4	3	2	24
Guinea-Bissau 91	4	4	4	0	0	0	0	0	4	0	0	16
Guinea-Bissau 96	2	2	3	2	2	1	1.67	1	1	3	0	13.67
Kenya 92	3	4	3	0	0	4	1.33	4	4	3	0	22.33
Kenya 08	3	4	0	0	0	4	1.33	4	4	3	0	19.33

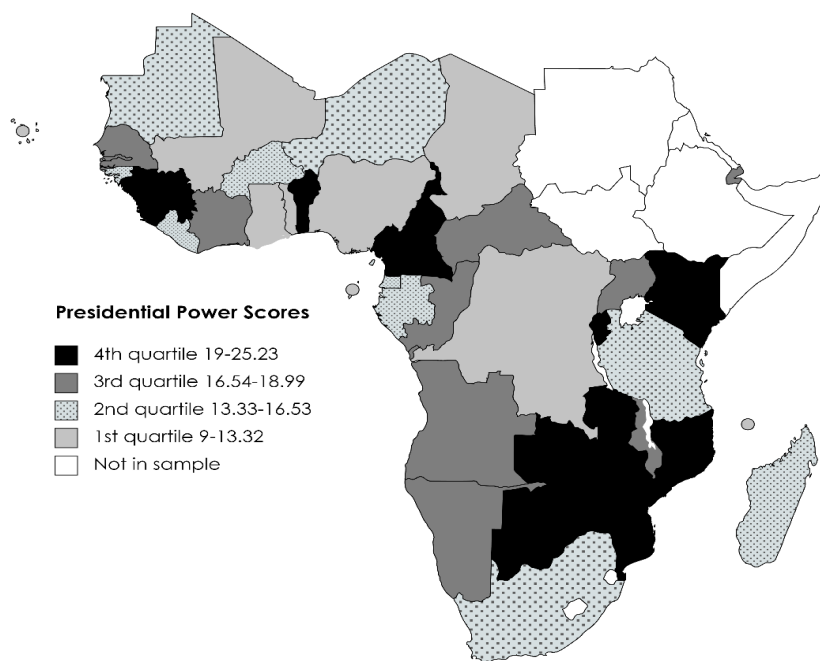
Constitutions	1)	2)	3)	4a	b	c	4)	5)	6)	7)	8)	Total
Kenya 10	1	4	0	4	2	0	2	0	1	3	0	11
Liberia 86	1	4	0	4	0	0	1.33	0	4	3	0	13.33
Madagascar 92	2	2	0	0	2	0	0.67	1	1	1	2	9.67
Madagascar 98	2	2	4	0	2	0	0.67	3	2	1	2	16.67
Madagascar 10	2	2	3	0	2	0	0.67	2	2	1	3	15.67
Malawi 94	4	4	0	4	4	4	4	0	4	1	0	17
Mali 92	2	0	2	0	2	1	1	2	2	1	0	10
Mauritania 91	2	4	4	4	2	0	2	2	1	1	0	16
Mauritius 91	2	2	2	0	0	0	0	1	1	1	0	9
Mozambique 90	4	4	4	2	4	2	2.67	1	4	3	0	22.67
Mozambique 04	4	4	4	4	4	2	3.33	1	4	3	0	23.33
Namibia 90	3	4	4	2	2	2	2	1	1	3	0	18
Niger 92	2	2	3	0	2	0	0.33	2	1	2	0	12.33
Niger 96	4	4	4	4	2	4	3.33	0	4	2	2	23.33
Niger 99	2	2	1	0	4	0	1.33	2	1	2	0	11.33
Niger 10	2	2	4	0	4	0	1.33	2	1	2	0	14.33
Nigeria 99	1	4	0	0	0	2	0.67	0	4	3	0	12.67
Rwanda 03	2	2	4	2	2	0	1.33	2	2	3	3	19.33
Rwanda 10	4	4	4	2	2	0	1.33	2	2	3	3	23.33
Rwanda 15	4	0	4	2	2	0	1.33	2	2	3	3	19.33
São Tomé & Príncipe 90	2	2	4	2	2	1	1.67	1	1	2	0	13.67
São Tomé & Príncipe 03	2	2	1	2	1	0	1	1	1	2	0	10
Senegal 91	2	2	4	0	0	1	0.33	1	3	2	2	16.33
Senegal 01	2	2	4	2	2	1	1.67	2	1	2	2	16.67
Sierra Leone 91	4	4	0	4	4	4	4	0	4	3	0	19
South Africa 96	3	4	3	4	2	4	3.33	1	0	0	0	14.33
Tanzania 92	3	4	3	0	2	0	0.67	1	1	3	0	15.67
Togo 92	2	2	1	0	2	0	0.67	2	2	1	0	10.67
Togo 02	2	2	4	0	2	0	0.67	2	2	1	0	13.67
Uganda 95	1	4	3	4	4	4	4	0	1	4	0	17
Uganda 05	1	4	3	4	4	4	4	0	1	4	0	17
Zambia 91	3	4	3	4	2	1	2.33	1	4	1	0	18.33
Zambia 96	3	4	3	4	2	1	2.33	1	4	3	0	20.33
Zambia 16	3	4	0	4	2	0	2	1	2	3	0	15
Zimbabwe 90	3	4	4	0	0	4	1.33	4	3	3	0	22.33
Zimbabwe 13	3	4	0	4	2	4	3.33	1	3	3	0	17.33

**Note:** (1) = Appointing ministers; (2) = Dismissing ministers; (3) = Personnel decisions prime minister/vice president; (4) = President-cabinet relationship: (a) Ministerial responsibility, b) Cabinet presidency, c) Provisions towards ministers; (5) = Dissolution of parliament; (6) = Vote of no confidence; (7) = Veto/Override; (8) = Decree.

Table A2: Summary Statistics

Variable	N	Mean	SD	Min	Max
Cabinet size	924	22.863	7.086	4	49
Ministerial stability	924	7.525	8.156	0	41
Ethnic cabinet composition	319	0.711	0.157	0.357	1
Presidential power	924	16.351	4.348	9	25.667
Tenure	924	10.539	9.378	0	42
Civilian	924	0.565	0.496	0	1
Election year	924	0.198	0.399	0	1
Gender	924	15.578	9.896	0	53.846
Multiparty	924	0.628	0.484	0	1
Seat share	908	70.508	18.373	14.063	100
Polity	898	2.049	5.128	-7	10
PREG	806	0.406	0.222	0	0.8
Anglophone	924	0.387	0.487	0	1
logGDP	888	7.075	0.979	5.373	9.930
logPopulation	924	15.597	1.465	11.711	18.988
2000s	924	0.413	0.493	0	1
2010s	924	0.300	0.458	0	1

Figure A3: Presidential Power in sub-Saharan Africa



Source: Created by authors with mapchart.net.

**Table A4: Negative Binomial Regression**

Variable	Cabinet Size	Ministerial Stability
Presidential power	0.002 (0.002)	-0.017 (0.012)
Tenure	0.001 (0.001)	-0.008 (0.007)
Civilian	0.018 (0.018)	0.080 (0.114)
Election year	-0.005 (0.018)	0.876*** (0.115)
Gender	-0.004*** (0.001)	-0.004 (0.006)
Multiparty	0.120*** (0.018)	0.233* (0.114)
Seat share	0.000 (0.000)	0.002 (0.003)
Polity	-0.008*** (0.002)	-0.011 (0.013)
PREG	0.072† (0.042)	0.051 (0.269)
Anglophone	-0.110*** (0.019)	-0.088 (0.121)
logGDP	0.069*** (0.009)	-0.076 (0.056)
logPopulation	0.133*** (0.008)	0.113* (0.050)
2000s	0.112*** (0.020)	0.016 (0.124)
2010s	0.118*** (0.022)	-0.190 (0.143)
Constant	0.443** (0.156)	0.713 (0.991)
Log likelihood	-2,305.306	-2,363.602
AIC	4,642.612	4,759.204
Observations	790	790

Source: Authors' calculations. Standard Errors in parentheses. † $p < 0.1$ , \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

**Table A5: Log Dependent Variables**

Variable	Ethnic Composition	Cabinet Size	Ministerial Stability
Presidential power	-0.008 <sup>†</sup> (0.005)	0.004 (0.003)	-0.021 <sup>†</sup> (0.012)
Tenure	0.002 (0.002)	0.002* (0.001)	-0.008 (0.006)
Civilian	-0.021 (0.016)	0.017 (0.020)	0.057 (0.106)
Election year	0.016 (0.016)	-0.005 (0.015)	0.735*** (0.086)
Gender	0.001 (0.001)	-0.001 (0.001)	-0.006 (0.005)
Multiparty	0.038 (0.027)	0.061** (0.021)	0.004 (0.107)
Seat share	-0.002*** (0.001)	0.001 <sup>†</sup> (0.000)	0.003 (0.003)
Polity	0.001 (0.004)	-0.000 (0.002)	0.007 (0.012)
PREG	0.074 (0.403)	0.149 (0.118)	-0.042 (0.296)
Anglophone	-0.106 (0.142)	-0.127* (0.050)	-0.291* (0.128)
logGDP	-0.079 (0.052)	-0.002 (0.018)	-0.063 (0.059)
logPopulation	-0.105 (0.065)	0.121*** (0.020)	0.079 (0.053)
2000s	0.040 <sup>†</sup> (0.023)	0.097*** (0.017)	0.075 (0.100)
2010s	0.057 <sup>†</sup> (0.031)	0.100*** (0.022)	0.007 (0.119)
Constant	2.116* (0.904)	0.978** (0.347)	1.395 (1.028)
R-squared	0.125	0.368	0.169
Observations	313	790	569

**Source:** Authors' calculations. Random-effects OLS regression. Standard Errors in parentheses. <sup>†</sup> $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .



**Table A6: Presidential Power Shugart and Carey**

Variable	Ethnic Composition	Cabinet Size	Ministerial Stability
Presidential power	0.002 (0.004)	0.200* (0.100)	0.011 (0.098)
Tenure	0.001 (0.001)	0.057* (0.023)	-0.077* (0.039)
Civilian	-0.008 (0.015)	0.723 (0.471)	0.542 (0.673)
Election year	0.008 (0.010)	-0.077 (0.346)	8.147*** (0.665)
Gender	0.001 (0.001)	-0.031 (0.022)	-0.028 (0.035)
Multiparty	0.048** (0.018)	1.801*** (0.495)	1.602* (0.652)
Seat share	-0.002*** (0.000)	0.016 (0.011)	0.018 (0.018)
Polity	0.001 (0.002)	0.020 (0.058)	0.032 (0.078)
PREG	0.042 (0.265)	2.779 (2.488)	1.246 (1.630)
Anglophone	-0.055 (0.093)	-2.289* (1.063)	-0.716 (0.747)
logGDP	-0.066† (0.034)	0.295 (0.394)	-0.281 (0.338)
logPopulation	-0.066 (0.043)	2.878*** (0.433)	0.951** (0.303)
2000s	0.011 (0.015)	2.009*** (0.403)	0.189 (0.707)
2010s	0.031 (0.020)	1.994*** (0.509)	-1.262 (0.818)
Constant	2.255*** (0.600)	-31.242*** (7.660)	-8.364 (6.065)
R <sup>2</sup>	0.145	0.254	0.216
Observations	313	790	790

**Source:** Authors' calculations. Random-effects OLS regression. Standard Errors in parentheses. † $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .