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Government Type and Public Spending in Africa

How does government composition affect government spending in Africa's democracies? Many scholars have examined the political, institutional, and ideological determinants of government spending, finding that government attributes can affect government spending levels. However, many of these studies have focused on OECD countries, largely overlooking the link between government spending and government composition in African democracies. I examine support for two existing theories about the characteristics of governments that can lead to increases in spending levels: the number of parties in government and the number of ministers. I assess empirical evidence for these theories using original data on government composition in 19 African countries from 1990 to 2015 and data on government spending from the World Bank. I find that a coalition at the time the budget is passed is associated with increased spending, but the number of cabinet ministers does not appear to systematically affect levels of government spending.

Introduction

What determines levels of government spending? Since Roubini and Sachs (1989a, 1989b) first published their influential examination of coalitions and budget outcomes, a number of scholars have focused on better understanding the political, institutional, and ideological determinants of government spending. These studies have broadly concluded that political institutions, such as government composition, play a role in determining government budget outcomes. The majority of these studies, however, draw their conclusions from a limited sample of industrialized countries of the Organization of Economic Cooperation and Development (OECD) (Bawn and Rosenbluth 2006; De Haan, Sturm, and Beekhuis 1999; Martin and Vanberg 2013; Perotti and Kontopoulos 2002; Ricciuti 2004; Roubini and Sachs 1989a,

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1989b; Volkerink and de Haan 2001). Government spending is arguably one of the most basic and important functions of any government, and yet we know very little about the determinants of government spending in Africa's democracies.

Many scholars have argued that existing theories are relevant to a broader sample of countries (Elgie and McMenamin 2008; Hallerberg and Marier 2004; Wehner 2010; Woo 2003) but most do not include many African countries in their sample.[1] Others include both democracies and autocracies (LeVan and Assenov 2015; Yabré, Semedo, and Ouédraogo 2019), which means that they treat spending dynamics as comparable across these settings, rather than a product of different underlying institutional mechanisms. Still other existing work focuses on budget balances (Elgie and McMenamin 2008; Woo 2003) whereas the primary outcome of the common-pool-resource theory is on overall levels of spending (Bawn and Rosenbluth 2006; Martin and Vanberg 2013). I add to this existing scholarship by focusing specifically on African democracies and examining the ways that the composition of the government can create pressures to increase spending levels.

The study of government composition is relatively new in African democracies, as much of the existing work on the effects of partisan dynamics in the government-formation process originates in the parliamentary democracies of Europe. While scholars have extended this work to show that partisan coalitions frequently form in the presidential democracies of Latin America (Amorim Neto 2006; Cheibub, Przeworski, and Saiegh 2004; Kellam 2015), the prevalence of "big man" arguments about African leaders (Bratton and van de Walle 1997; Jackson and Rosberg 1982; van de Walle 2003) led scholars to assume that legislative parties were of only limited importance to understanding governance in Africa.[2] As a result, the few existing studies of cabinets in Africa have focused on the strategic use of cabinets to build ethnic support in the broader population, rather than engaging with the sizeable literature on government formation originating in other world regions (Arriola ; Francois, Rainer, and Trebbi 2015). More recently, scholars have begun to consider African legislatures as credible institutional constraints on executive power (Barkan ; Opalo 2019, 2020), and analyze the strategic use of government-formation processes to build partisan support in the legislature (Ariotti and Golder 2018; Chaisty, Cheeseman, and Power 2018; Gottlieb and Kosec 2019). Given that existing work from Europe and Latin America suggests that government attributes play a role

in determining levels of government spending, a better understanding of the institutional determinants of public spending in the context of African democracies is overdue.

Existing scholarship has argued that the composition of the government affects government spending because of the way that parties and coalitions of parties internalize the electoral costs of increased spending; this is an example of a common-pool-resource problem (CPR problem). A single party represents a coalition of interests in the population. When that single party is in government alone, it is accountable to its constituents for all the spending decisions it, as the government, makes. When multiple parties are in government together, however, it becomes more difficult for citizens to directly attribute spending decisions to each party uniquely. As a result, multiple parties representing multiple constituencies face incentives to spend on matters of priority to their own constituents, while sharing out the responsibility for increased spending on the part of the government as a whole (Bawn and Rosenbluth 2006). I argue that this same logic of voter accountability is applicable in African democracies because voters care about public spending that directly affects their communities. Despite the lack of formal budget transparency in many African democracies, I argue that citizens are able to assess the extent to which the government carried out political promises in communities where voters reside through visible manifestations of government spending.[3] As a result, I expect existing arguments about the common-pool-resource problem of government spending to be broadly generalizable, meaning that I expect coalition governments to spend more than single-party governments in African democracies.

I examine support for this theoretical mechanism using new data on government composition in African democracies, which allows me to examine how spending levels in single-party governments compare to those of partisan coalitions. This question is of fundamental importance because citizens generally expect that it is their needs, as well as government commitments, that drive levels of government spending. To the extent that such matters are being decided by characteristics of the government itself, rather than its obligations, the effect of government composition on government spending represents an important dimension of accountability. I add to existing scholarship by adapting a canonical model of government spending to the institutional context of African democracies. Analyzing original data, my analyses suggest that when the level of government spending in the previous year

is taken into account, the presence of a partisan coalition at the time the budget is passed is associated with an increase in overall government spending. I do not find evidence to support a competing theory, which states that the CPR problem occurs at the level of the individual ministers, rather than the parties. The empirical analysis suggests that increasing the number of ministers in the cabinet is not systematically associated with higher levels of government spending.

I make several important contributions to existing literature. First, I employ new data on partisan government composition. Data on the partisan composition of African governments is difficult to collect, and existing data that has been used to study partisan government composition is frequently lacking in source documentation and transparency. This new dataset provides the first comprehensive data on government composition in African democracies that is carefully collected in line with existing best practice for datasets in other world regions. My long-term data-collection effort is part of a broader contribution to the study of government formation in African democracies, and as part of this effort, I work to make high-quality data on the partisan composition of African governments accessible. Second, I examine support for existing arguments about the role that government composition plays in levels of government spending, focusing specifically on a part of the developing world that is underrepresented in existing research. This article contributes to efforts to bring African democracies into broader discussions of the effects of government composition on government spending and the effects of political institutions in democracies more generally. Third, I add to a growing body of scholarship that calls for a more thorough understanding of political institutions in Africa and the ways in which they influence political phenomena (Opalo 2019, 2020).

Theory

Given the importance of government spending to policy implementation, it is unsurprising that many scholars have dedicated considerable effort to improving our understanding of how characteristics of the governments, such as their partisan composition, affect levels of public spending. This scholarship has examined overall spending (Bawn and Rosenbluth 2006; Martin and Vanberg 2013; Ricciuti 2004; Wehner 2010) and budget balances, with a particular interest in deficit spending (Perotti and

Kontopoulos 2002; Roubini and Sachs 1989a, 1989b; Volkerink and de Haan 2001; Wehner 2010; Woo 2003). I begin by summarizing the logic of a CPR problem (Ostrom 1990), which is widely seen as the principal explanation for expectations about spending in single-party and coalition governments. A CPR problem arises "whenever politicians consider the benefits and costs of their decisions on their constituencies only" (Hallerberg 2004, 572).[4] I then examine how scholars have debated whether this CPR problem is driven by individual ministers or by the number of parties in government, focusing on dynamics present in African political institutions that may influence these processes.

In the context of government spending, the common-pool resource is the total government revenue available for allocation. Each party in the government controls one or more ministerial portfolios, and because parties are accountable to the constituencies that elect them, they attempt to retain the support of voters by pursuing and implementing policies that were promised during the campaign. A single party in government recognizes that all spending decisions it makes will affect how voters view the party at the next election, and so the electoral cost of profligacy can be seen as a constraint on government spending decisions. When parties form coalition governments, each party is incentivized to lobby for more spending in the ministries they control, so as to maximize the electoral rewards of delivering on promises to constituents. Whereas single-party governments internalize the costs and benefits of increased spending, members of a coalition can simultaneously attempt to reap electoral rewards for delivering spending in areas their constituents care about, while shirking blame for excessive levels of overall government spending by finger pointing at their coalition partners. Put differently, the costs of higher levels of spending are borne by the electorate as a whole, and individual members of the coalition are not forced to internalize the aggregate implications of their behavior. This implies that as more parties enter a government together, there are a greater number of constituencies to whom the government is accountable. Thus, as the government is held accountable to more groups (via parties), there will be greater overall government spending (Bawn and Rosenbluth 2006).

Given that this theoretical mechanism hinges on the way that parties in government are held accountable by their voters, scholars may wonder how this argument operates in the context of African democracies. There is a great deal of existing work

suggesting that African political parties are weak (Erdmann 2004; Fomunyoh 2001; Hyden 2011; Randall and Svåsand 2002) and that party-system institutionalization is not as well developed across Africa as it is elsewhere in the world (Kuenzi and Lambright 2001; Lindberg 2007; Manning 2005). Much of this scholarship draws on the perception that ethnicity and patronage drive the relationship between "big man" rulers and their citizens (Bratton and van de Walle 1997; Ferree 2010; Horowitz 1985; Manning 2005). Though the process of party-system institutionalization in Africa may be ongoing, there is evidence that some existing theories of party behavior, such as partisan portfolio allocation, do find support in African countries (Ariotti and Golder 2018) and that coalition governments in African countries are becoming increasingly important (Kadima 2014). As was the case for scholarship on executive-legislative relations in Latin America, perceptions about the role of coalitions in presidential democracies delayed the study of government formation and executive-legislative relations in Africa more broadly, though recent work has helped to systematically examine the frequency of partisan coalitions government-formation (Ariotti and Golder 2018; Chaisty, Cheeseman, and Power 2018). This work on coalitional presidentialism reinforces much of the existing work on the power and importance of cabinet appointments in Africa's democracies (Arriola 2009; Ariotti and Golder 2018; Chaisty, Cheeseman, and Power 2014; Francois, Rainer, and Trebbi 2015; Harding 2015) and helps to illustrate that the partisan coalitions that emerge from legislative bargaining have real implications for broader political phenomena.

I join others in arguing that African party politics can be understood beyond ethnicity (Basedau and Stroh 2012; Elischer 2013; Koter 2016; Mkandawire 2015) and that the logic of vertical accountability to voters can coexist with the perceived shortcomings of less institutionalized parties. Some citizens in African democracies may not have strong accountability mechanisms in place; this may be particularly limiting in those cases where ethnic voting is more prevalent. However, to the extent that parties are (often personalistic) vehicles designed primarily to funnel resources from party leadership to particular segments of society, it is reasonable to expect that these constituencies are indeed paying attention to what they receive and thus able to maintain some degree of accountability, a logic supported by work on economic voting in Africa (Bratton, Bhavnani, and Chen 2012; Carlson 2018;

Lindberg and Morrison 2005).[5] This suggests that party leaders, such as ministers appointed to a coalition government, have incentives to appeal to their constituents by demanding prioritization of spending in their domains.

Until recently, almost no scholarship considered the partisan composition of the government. This was partially a response to prevailing perceptions about the strength of African leaders, which led scholars to focus more on the use of the cabinet as a tool of patronage and cooptation of ethnic leaders (Arriola ; Francois, Rainer, and Trebbi 2015); it also resulted from the lack of data on partisan government composition in African democracies. Scholars have begun to examine the partisan government-formation process in African democracies, drawing on the existing scholarship from parliamentary democracies in Europe and presidential democracies in Latin America to inform arguments about the nature of bargaining in Africa's parliamentary and presidential democracies (Ariotti 2019; Ariotti and Golder 2018). This work uses new data to show that coalition governments form frequently: approximately half of all governments formed between 1990 and 2015 in African democracies were coalition governments (governments in which two or more legislative parties shared ministerial portfolios) (Ariotti 2019).[6]

Given that parties in Africa can be held accountable to voters based on voter perceptions about responsiveness to local needs (Bratton, Bhavnani, and Chen 2012; Carlson 2018) and that even strong African leaders have incentives to build legislative coalitions by sharing ministerial portfolios (Ariotti and Golder 2018), I argue that the government spending CPR problem that scholars have so extensively studied in European democracies may also pose a threat to African democracies. Increasing the number of parties in government results in each party prioritizing the support of its constituency and pushing for higher spending in the domains of interest to its voters. As different parties appeal to different constituencies, the result is a CPR problem, in which the costs of increased government spending are externalized. This argument leads to the first hypothesis regarding the effect of government composition on government spending in African countries:

Coalition Hypothesis: Coalition governments have higher levels of government spending than single-party governments.

While many scholars have focused on the CPR problem as a matter of government fragmentation at the party level (Bawn and Rosenbluth 2006; De Haan, Sturm, and Beekhuis 1999; Roubini and Sachs 1989a, 1989b), others have seen the CPR problem as being a matter of size fragmentation driven by the number of ministers (Perotti and Kontopoulos 2002; Schaltegger and Feld 2009; Volkerink and de Haan 2001; Wehner 2010). As a result, some scholars have focused on the "type" of government and the number of parties it contains, while others instead use counts of the number of ministers.[7] The number of parties in government and the number of cabinet ministers are not wholly independent of one another (Indriðason and Bowler 2014), but this different understanding of the level at which the CPR problem occurs has led to a broader debate about the theoretical implications of government composition and cabinet size.[8]

According to this theorized mechanism, the CPR problem occurs at the level of the ministers because "fiscal policy is ultimately decided by ministers within the cabinet" (Perotti and Kontopoulos 2002, 193). In other words, ministers want to increase spending in their individual domains, without regards to the aggregate effects on spending; this, in turn, increases overall levels of government spending. This scholarship implies that even well-disciplined parties may find it difficult to manage the spending preferences of individual ministers, although scholars focusing on matters of discretion and control note that a lack of visible monitoring should not be equated with ineffective control (Weingast and Moran 1983). Existing scholarship on the determinants of government spending has often focused on a sample of countries with comparatively strong, programmatic parties (Bawn and Rosenbluth 2006; Fortunato and Loftis 2018; Martin and Vanberg 2013). In such a setting, we might expect that individual incentives to spend can be mitigated by strong party leadership to some extent, despite the fact that each party behaving in this way still contributes to a higher-order CPR problem. However, in the case of weak, particularistic parties, parties make lack the incentives and capacity to constrain ministers. If parties are unable to exert effective control over their ministers, the ability of ministers to assume control over the resources at their disposal could lead to a stronger CPR effect at the level of the individual ministers.

The findings from these two related strains of literature are mixed. Bawn and Rosenbluth (2006) find that increasing the number of parties in government is correlated with increased levels of

government spending, while others, such as Hallerberg (2004) and Martin and Vanberg (2013), temper these findings by pointing to the role that budgetary constraints play in mitigating the CPR problem. While some scholars have mainly focused on the number of parties in government, others have instead tended to emphasize the importance of the number of spending ministers, rather than the number of parties. Indeed, analyses that include both variables come to varied conclusions about the relative importance of the number of ministers and measures of the number of parties for spending levels (Perotti and Kontopoulos 2002; Volkerink and de Haan 2001). The only existing work on government composition and its effects on government spending in Africa looks at both the government composition and the number of ministers (LeVan and Assenov 2015), but the theoretical mechanism focuses on patronage pressures, rather than spending, and includes both democracies and autocracies. To facilitate the comparison of democratic governments in Africa to existing analyses, I propose a second hypothesis, which examines support for the argument that the CPR problem exists at the ministerial, rather than party, level:

Minister Hypothesis: Increasing the number of ministers in government increases overall government spending.

Taken together, these hypotheses allow us to examine the role of government composition in an important way. Existing scholarship suggests that parties are sufficiently disciplined to act as organizing units both electorally (Basedau and Stroh 2012; Carlson 2018; Elischer 2013) and within the realm of intragovernment bargaining (Ariotti and Golder 2018). By assessing the results from these hypotheses, we can examine whether party strength extends to control over spending priorities or whether parties are insufficiently disciplined to restrain the spending preferences of their individual ministers.

Examining the logic of the CPR problem at the level of ministers and governments in African democracies contributes to the existing literature in several ways. First, spending decisions are some of the most important tasks for any government. Most existing scholarship has focused on the members of the OECD, and particularly Western Europe (Bawn and Rosenbluth 2006; De Haan, Sturm, and Beekhuis 1999; Martin and Vanberg 2013; Perotti and Kontopoulos 2002; Ricciuti 2004; Roubini and Sachs

1989a, 1989b; Volkerink and de Haan 2001; Wehner 2010), countries for which information about both spending and government composition is readily available.[9] A better understanding of this process in developing democracies is key to expanding our knowledge of how government composition affects spending outside of some typical assumptions about how formal institutions operate.

Second, this work builds on existing studies of cabinet dynamics in Africa by examining formal institutions and their effect on levels of government spending, specifically in democracies. Although scholars have increasingly looked to other regions to test arguments about levels of government spending (Elgie and McMenamin 2008; Hallerberg and Marier 2004; LeVan and Assenov 2015; Wehner 2010; Woo 2003), they frequently include both democracies and autocracies. This is also true of existing work on African cabinets, which has tended to include both democracies and autocracies (Arriola 2009; Arriola and Johnson 2014; Francois, Rainer, and Trebbi 2015; LeVan and Assenov 2015; Yabré, Semedo, and Ouédraogo 2019), or exclusively autocracies (Kroeger, 2020). Because electoral accountability is an important part of the CPR logic that underpins my theoretical mechanism, I focus on democracies, where we might reasonably expect that electoral accountability is more applicable. Failing to consider those contexts which are democratic as separate from those that are not neglects what may well be systematic differences in voters' ability to express discontent about government performance, as well as the strategies they may employ to do so.

Third, this article presents an empirical analysis that can more easily be compared to existing scholarship from other regions. I use a new dataset designed to capture specific information about government composition in African democracies, allowing scholars to move beyond the use of less specific index measures of government composition and stability (LeVan and Assenov 2015; Yabré, Semedo, and Ouédraogo 2019). I also focus on the empirical strategies discussed at length by Bawn and Rosenbluth (2006), facilitating a discussion about how the effects of CPR spending arguments compare across more or less institutionalized contexts (Elgie and McMenamin 2008).

Empirical Analysis

To empirically evaluate the relationship between government composition and levels of government spending, I contribute new

data on partisan government composition in African democracies. These new data allow us to examine the government-formation process itself as well as various consequences of government formation, such as portfolio allocation and levels of government spending. I begin by defining the countries included in the following analyses. First, a country is considered African if it is a member of the African Union. As of 2019, there are 55 members of the African Union.[10] I then restrict my sample to democracies from 1990 to 2015.[11] The early 1990s correspond to the "third wave of democratization," a time when many dictatorships transitioned to multiparty politics (Brierley 2012; Golder and Wantchekon 2004; Huntington 1991; Manning 2005). I focus on democracies because the nature of the CPR problem suggests that parties must be electorally accountable to voters to at least some degree; this logic is largely incompatible with the definitional features of authoritarian regimes. The unit of analysis is the country-year, because government spending is generally approved in the form of an annual budget.

Government Spending

The dependent variable is government spending, or the size of the public sector. Data on government expenditures is provided by the World Bank. The specific measure of government spending used is the general government final consumption expenditure, as a percentage of GDP. It includes "all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation" (World Development Indicators 2017).[12]

The countries and years that are both coded as democratic and for which spending data are available are shown in Table 1. There are a total of 21 countries that are coded as a democracy and also have available spending data, producing a cumulative total of 301 country-years.[13] International efforts to produce documents pertaining to government spending frequently focus on the publication of budgetary reports, but they often fail to seriously evaluate the substantive content of such documents with respect to whether the data provided actually permits any form of transparent analysis (de Renzio and Simson 2013). Despite these limitations, the available data does permit a first cut at understanding the

TABLE 1
Countries in Sample

Country	Years
Benin	1991–2015
Botswana	1990–2015
Burkina Faso	2015
Burundi	2005–14
Cape Verde	2007–15
The Gambia	1990–93
Ghana	2001–15
Kenya	2002–15
Lesotho	2007–15
Liberia	2006–15
Madagascar	1992–2008, 2014–15
Malawi	1994–2000, 2004–15
Mali	1992–2011
Mauritius	1990–2015
Namibia	1990–2015
Niger	1992–95, 2004–2008, 2011–15
Nigeria	2015
Senegal	2000–15
Sierra Leone	2007–15
South Africa	1994–15
Zambia	2010–15
Countries = 21	*Country-years* = 301

Note: Burkina Faso in 2015 and Nigeria 2015 are both coded as a 6 or higher on Polity IV. However, the importance of including lags (discussed in the model specification) leads to their exclusion in the subsequent analyses.

relationship between government composition and government size. Given the comparative lack of attention to formal institutions in Africa's democracies and their effects on outcomes such as levels of government spending, this represents an important step towards including African democracies in broader discussions of government formation and its effects.

Measuring Government Composition

It is only recently that the effects of partisan government composition in African democracies have begun to receive empirical attention. I take a few different approaches to understanding how different features of government composition affect levels of government spending. First, I distinguish between single-party governments and partisan coalition governments. As the names

indicate, a single-party government is a government where all of the cabinet positions are held by a single party. In contrast, a partisan coalition government is one in which multiple parties hold positions in the cabinet. In keeping with existing literature on government formation and composition, I define partisan coalition governments as those in which multiple parties, each with legislative representation, share full-rank ministerial positions in the cabinet.[14] Although Bawn and Rosenbluth (2006) examine how increasing the number of parties in government affects the levels of overall spending, the available data on African government composition does not always allow me to determine this information.[15] As a result, I am only able to examine differences between single-party and coalition governments, rather than a measure of the effect of additional parties *within* coalition governments on government spending. Although I am unable to examine the effect that each additional party in government imparts on levels of government spending, this new data on government composition provides an improvement over existing datasets such as Banks and Wilson (2014), which relies on an opaque ordinal coding of legislative coalitions, rather than portfolio coalitions.[16]

The timing of government formation is an important element to consider in the analyses that follow. Budgets are passed annually, but new governments can (and often do) form at any time.[17] A single year may contain multiple governments, or a single government may last for multiple years. This means that to code a government as a single-party or coalition for country-years is a crude measure of actual government composition across time. To best leverage the information I have about governments into the country-year format, I operationalize the presence of a government coalition as the number of months in that country-year that a government is coded as a coalition. For example, if a coalition government formed in January 2002 and ended in March 2003, and a single-party government formed in April 2003 and lasted into 2004, then the country would have the number of months in a coalition coded as 12 in 2002, and 3 in 2003. While imperfect, this operationalization allows me to approximate the degree to which a government coalition may have influenced spending in a given year. This *months coalition* variable is the key independent variable used to evaluate support for the Coalition Hypothesis.

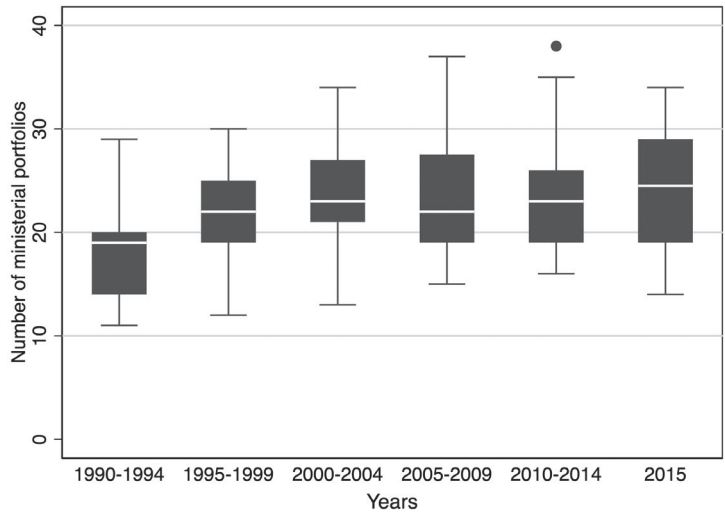
Scholars have debated whether the CPR problem of government spending is felt at the level of the party, or at the level of the individual ministers; it is this difference that separates the the

Coalition Hypothesis and the Minister Hypothesis. To address the number of ministers, or "size fragmentation" of the cabinet (De Haan, Sturm, and Beekhuis 1999; Elgie and McMenamin 2008; Perotti and Kontopoulos 2002; Volkerink and de Haan 2001), I construct measures of the government's composition that focus on the number of ministers in the cabinet. The first counts all ministerial portfolios in the cabinet. It includes presidents and prime ministers holding additional portfolio responsibilities, as well as ministers without portfolio, and all ministries. This measure of the *total ministerial portfolios* provides a more inclusive understanding of how pressures to spend may emanate from large cabinets that have been used to co-opt political elites and/or to provide patronage. The second measure replicates the criteria that Wehner (2010) uses to distinguish "spending ministers." Wehner's definition emphasizes counting only those ministers "who are most likely to externalize a large share of the cost of their actions" (638). He defines spending ministers as all full-rank cabinet ministers, *excepting*:

> *"the chief executive (prime minister, president, or chancellor) and his or her deputies, finance ministers (including budget ministers, ministers of the economy and the treasury) and attached ministers, as well as any minister who is directly attached to the chief executive or who is subordinate to a portfolio for which a representative minister already exists, such as associate ministers, assistant ministers, minister delegates, ministers in other ministries, and parliamentary secretaries." (637)*

In order to code the number of ministers and the number of spending ministers, I rely on the cabinet listings taken at approximately one-year intervals and recorded in annual volumes of *Africa South of the Sahara*. This encyclopedic reference allows me to count ministerial portfolios according to the titles officially on record. There is a general sense that the number of ministers in African cabinets is increasing over time (Arriola 2009; LeVan and Assenov 2015), which is reinforced by a contested narrative regarding the perception that Africa's bureaucracies are overgrown, or "bloated" (Goldsmith 1999; Mkandawire 2015). However, focusing on those democracies for which spending data is available, there is relative stability in cabinet size, as illustrated by Figure 1. This suggests that the variation in cabinet sizes is driven by something other than a general upward trend in cabinet size.[18]

FIGURE 1
Change in Average Number of Ministers over Time



Note: Distribution of the total number of ministers (for African democracies in the sample) shown by five-year groups. The white horizontal lines for each box show the median value, and the shaded box shows the range of the 25th to 75th percentiles. The whiskers show the upper and lower adjacent values, while the gray dots illustrate outliers.

The number of ministerial positions that are excluded using Wehner's (2010) definition of spending ministers does not have a consistent effect, although it might initially seem as though it would merely shift the intercept up or down by a fixed number in each country. The fact that ministerial portfolios are frequently combined, split apart, and recombined means that the number of portfolios excluded as "nonspending" is not a fixed number, even within a single country over time.[19] While previous studies have relied on ministerial counts, focusing on those with a greater ability to externalize the costs of higher spending is a helpful way of addressing the specific logic of the CPR problem. Both the *total ministers* and *spending ministers* variables are the key independent variables used to evaluate support for the Ministers Hypothesis.

Controls

I include a variety of controls to address other sources of variation in levels of government spending. I control for the number of governments that formed in a single year, using the data collected at

the government level. Cabinet instability, as proxied by rapid turnover in governments, could affect levels of government spending if the changing cabinets cause changing spending priorities, which could lead to a cumulative increase in overall spending for the year. I control for the effective number of legislative parties (ENLP), which is frequently used as a measure of fragmentation in the legislature (Bawn and Rosenbluth 2006; Martin and Vanberg 2013; Volkerink and de Haan 2001). Controlling for ENLP allows me to take into account the bargaining environment of the legislature, and therefore the supply of parties available for the government-formation process.[20] I also control for presidential and parliamentary democracies, which create the potential for different government-formation dynamics, given that presidents are not explicitly required to retain legislative majorities in order to remain in office (Ariotti and Golder 2018; Cheibub and Limongi 2002; Cheibub, Przeworski, and Saiegh 2004). Finally, I include a control for the type of electoral system, expanding upon existing electoral data as necessary (Bormann and Golder 2013). There is existing scholarship that argues that proportional and majoritarian electoral rules produce different expectations about spending pressures (Milesi-Ferretti, Perotti, and Rostagno 2002; Persson, Roland, and Tabellini 2007).

In addition to political controls, I include others intended to capture general socioeconomic conditions that could affect levels of government spending in a given year (Bawn and Rosenbluth 2006; Elgie and McMenamin 2008; Martin and Vanberg 2013). I include total population and the dependency ratio as controls, which provide measures of the population's overall age structure.[21] I also control for GDP per capita and unemployment because governments presumably budget in accordance with their expectations about productivity. Existing research suggests that trade openness is correlated with government spending, where governments in more open economies tend to spend more (Bawn and Rosenbluth 2006; Elgie and McMenamin 2008; Martin and Vanberg 2013). While these controls match those used in existing scholarship that primarily examines members of the OECD, I also include additional controls for foreign aid and natural-resource rents to reflect sources of revenue that play important roles in many African democracies. Sources of "unearned income" could potentially affect the relationship between government composition and government spending by changing the nature of accountability to voters (Bueno de Mesquita and Smith 2009; Smith 2008). The summary statistics for all of the variables in the analyses are shown in Table 2.

Model Specification and Results

Existing work on government spending considers the empirical implications of modeling the budgetary process extensively. This is most evident in discussions of the importance of lagging the covariates and the dependent variable. Bawn and Rosenbluth (2006), Martin and Vanberg (2013), and Fortunato and Loftis (2018) estimate autoregressive distributed lag models (ADL). This approach raises questions about whether past, present, or both values of the covariates should be included. Best practice, in the absence of theoretically motivated expectations, is to include past

TABLE 2
Summary Statistics

Variable	Mean	*SD*	Minimum	Maximum
Government spending (% of GDP)	16.57	5.76	6.71	40.44
Months coalition	5.74	5.81	0	12
Total ministers	22.55	5.51	11	38
Spending ministers	20.64	5.45	10	35
Governments formed in year	1.33	0.54	1	4
ENLP	3.02	1.84	1.19	8.79
Presidential	0.33	0.47	0	1
Proportional Representation	0.49	0.50	0	1
GDP per capita (1000s of constant 2010 USD)	2.57	2.46	0.23	8.31
Net overseas development aid received (% of GDP)	10.82	15.96	−0.25	147.05
Total natural resource rents (% of GDP)	6.21	6.28	0	33.39
Total unemployment (% of labor force)	10.98	8.71	0.69	33.47
Trade openness (% of GDP)	77.07	32.33	35.80	311.35
Dependency ratio	80.67	17.30	41.48	109.86
Total population (1000s)	12287.34	13543.92	480.84	52004.17

Note: Expenditures are displayed as a percent of GDP. GDP per capita is expressed in 1000s of constant 2010 USD. Countries with proportional-representation electoral systems and mixed electoral systems are grouped. Data on electoral rules comes from Bormann and Golder (2013), supplemented by IPU-Parline and https://www.eisa.org.za/EISA. Unemployment is expressed as the share of the workforce that is without work but seeking employment. The dependency ratio is the ratio of dependents (<15 or >64) to working-age population, calculated as a proportion of dependents per 100 working age population. Trade openness is expressed as the sum of exports and imports as a percentage of GDP. Population is expressed in thousands. Data for all economic indicators from the World Development Indicators (2017) was downloaded from the World Bank in October 2019.

and present values of the covariates, as well as a lagged dependent variable (Martin and Vanberg 2013). Existing empirical work finds that most of the effects of government composition appear to matter more when the budget was passed, as opposed to when it was implemented (Bawn and Rosenbluth 2006, 261).[22] Theoretically speaking, the lags of covariates, such as socioeconomic variables, are important because the budget is created for year t in year $t-1$. As a result, the social, political, and economic conditions of year $t-1$ may affect decisions about how to proceed with the contents of the budget to be implemented in year t. Those dynamics are combined with the conditions of year t, during which the budget is being implemented. In addition to the lagged and current values of the covariates, the lag of the dependent variable must also be included in these models. New budgets are close relatives of old budgets; in fact, the starting point of the budget for year t is likely to be the budget implemented in year $t-1$. I am agnostic regarding the effects of these socioeconomic variables on levels of government spending, which informs my decision to include both lagged and current values. While the state of the economy in $t-1$ is foremost in the government's collective mind as it develops the budget, it is possible that the values of these variables at time t may also affect implementation of the budget (Martin and Vanberg 2013).

Scholars have typically employed OLS models with panel-corrected standard errors, as well as panel-corrected standard errors with country fixed effects (Bawn and Rosenbluth 2006; Fortunato and Loftis 2018; Martin and Vanberg 2013). Including country fixed effects allows us to focus on the variation within countries, rather than across them. This is of substantive interest, given that the theory makes arguments about the effect that moving from a single-party to coalition government within a single country has on government spending. It does, however, pose some problems for my analysis, as many countries have limited time-series data available. Despite this potential limitation, I elect to base my model on these prior studies, which have considered these methodological trade-offs extensively.[23] Using a well-tested model specification to examine the relationship between government composition and spending has a clear advantage: it facilitates comparison between my findings and previous results, which contextualizes my substantive conclusions. Finally, I present the results when panel-corrected standard errors are employed in conjunction with two-way fixed effects. This takes shocks, such as economic crises, into account while also capturing variation within countries.[24]

My approach thus includes as covariates the lagged dependent variable (government spending at time $t-1$), as well as both current and one-year lags of all other independent variables. The binary indicator variables for presidentialism and proportional-representation electoral rules are included only in the current values because they are nearly always invariable.[25] The dependent variable is government spending in time t. Recall that I use one-year lags for all covariates because a budget for time t is passed during time $t-1$.

I evaluate empirical support for the Coalition Hypothesis in Table 3. Model 1 reports the pooled OLS results for current and lagged values of the dependent and independent variables with panel-corrected standard errors. Model 2 reports the results of the panel-corrected standard errors with the addition of country fixed effects. Model 3 includes panel-corrected standard errors, as well as two-way fixed effects. Recall that the Coalition Hypothesis predicts that coalition governments will have higher levels of overall spending than single-party governments. The results in Table 3 suggest that moving from a single-party government to a coalition government in time $t-1$ is associated with an increase in levels of government spending. Substantively, the relevant quantity is the cumulative effect of this year's total coalition months and last year's total coalition months. Using the case in which there was no coalition in the prior year and no coalition in the present year as our baseline, the marginal effect for the case where there is no coalition in the current year, but 12 months of coalition in the past year is 1.09%.[26] This result is statistically significant and robust to the inclusion of country and year fixed effects. This finding is consistent with existing scholarship from other regions (Bawn and Rosenbluth 2006; Martin and Vanberg 2013), and in line with the expectation of the Coalition Hypothesis.

I next evaluate empirical support for the Minister Hypothesis in Table 4. These models include one-year lagged and current values of the covariates and a lagged dependent variable, as in Table 3. Models 1 and 2 are pooled and include panel-corrected standard errors. Models 3 and 4 include panel-corrected standard errors and country fixed effects. Models 5 and 6 include panel-corrected standard errors, as well as both country and year fixed effects. Recall that the Minister Hypothesis predicts that increasing the number of ministers should lead to increased levels of government spending. I examine these results both with respect to the

TABLE 3
DV: Government Spending as a Percentage of GDP (coalitions)

	Model 1 (Pooled)	Model 2 (FE)	Model 3 (Two-way FE)
Lagged			
Months coalition	0.120***	0.090**	0.086**
	(0.046)	(0.040)	(0.041)
Gov'ts in year	−0.049	0.232	0.245
	(0.182)	(0.169)	(0.174)
ENLP	0.184	0.185	0.137
	(0.226)	(0.214)	(0.203)
Net ODA received	−0.029*	−0.002	−0.001
	(0.015)	(0.024)	(0.025)
Total resource rents	−0.092	−0.036	−0.062
	(0.064)	(0.062)	(0.062)
GDP per capita	1.349	1.547*	0.811
	(1.038)	(0.882)	(0.907)
Unemployment	−0.271**	−0.144	−0.157
	(0.115)	(0.115)	(0.114)
Trade openness	0.019	0.020	0.027*
	(0.012)	(0.014)	(0.015)
Dependency ratio	0.266	0.280	0.244
	(0.196)	(0.343)	(0.384)
Total population	−0.002	0.003	0.007**
	(0.002)	(0.003)	(0.003)
Gov't spending	0.772***	0.468***	0.446***
	(0.040)	(0.055)	(0.053)
Current			
Months coalition	−0.075*	−0.112**	−0.094**
	(0.044)	(0.045)	(0.046)
Gov'ts in year	0.320	0.320*	0.413**
	(0.233)	(0.192)	(0.190)
ENLP	−0.206	−0.367*	−0.284
	(0.227)	(0.221)	(0.205)
Presidential	0.242		
	(0.383)		
PR electoral rules	0.643**	0.859	0.607
	(0.283)	(1.395)	(1.269)
Net ODA received	−0.009	−0.002	−0.003
	(0.017)	(0.024)	(0.026)
Total resource rents	0.202***	0.129	0.138
	(0.070)	(0.079)	(0.086)
GDP per capita	−1.271	−1.064	−0.776
	(1.023)	(0.868)	(0.851)
Unemployment	0.401***	0.300***	0.316***
	(0.118)	(0.109)	(0.121)

(Continues)

TABLE 3
(Continued)

	Model 1 (Pooled)	Model 2 (FE)	Model 3 (Two-way FE)
Trade openness	0.003	0.006	0.005
	(0.011)	(0.013)	(0.014)
Dependency ratio	−0.235	−0.074	−0.004
	(0.194)	(0.356)	(0.414)
Total population	0.002	−0.002	−0.007*
	(0.002)	(0.003)	(0.003)
Constant	−3.001		
	(2.204)		
N	203	203	203

Note: One-year lagged values for covariates and the dependent variable, government spending as a percentage of GDP. All models include panel-corrected standard errors. See Table 2 for units.

*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$ (two-tailed).

total number of ministers, as well as the "spending" ministers as described by Wehner (2010). The results presented in Table 4 suggest that there is no systematic relationship between the number of cabinet ministers and the level of government spending. Even when the models focus specifically on "spending" ministers to capture ministers with incentives to directly push for more spending, there does not appear to be a systematic relationship. This is counter to the expectations outlined in the Minister Hypothesis.

Taken together, these results help to expand our existing understanding of the CPR problem as it relates to parties and individual ministers in government. While there is no evidence to support the predicted relationship between the number of cabinet ministers and government spending, we find that there is evidence to support the idea that coalitions are associated with higher levels of spending in the lagged time period. The logic of the CPR problem implies that having more parties in government together at the time the budget is negotiated creates pressures to spend that are difficult to constrain. While the theoretical predictions are more directly linked to the lagged variables due to the nature of budget processes, it is worth noting that the coalition variable has a statistically significant, though smaller, negative effect on spending in the current time period (budget implementation). While a more extensive examination of the implementation of the budget is beyond the scope of this article, it is possible that the persistence of diverse interests in the form of a coalition government during

TABLE 4
DV: Government Spending as a Percentage of GDP (ministers)

	Model 1 (Pooled)	Model 2 (Pooled)	Model 3 (FE)	Model 4 (FE)	Model 5 (Two-way FE)	Model 6 (Two-way FE)
Lagged						
Total ministers	−0.018		0.010		0.018	
	(0.055)		(0.054)		(0.053)	
Spending ministers		−0.020		0.002		0.003
		(0.056)		(0.054)		(0.053)
Gov'ts in year	−0.048	−0.049	0.197	0.194	0.233	0.231
	(0.186)	(0.187)	(0.175)	(0.176)	(0.179)	(0.180)
ENLP	0.195	0.193	0.163	0.171	0.128	0.131
	(0.246)	(0.246)	(0.233)	(0.235)	(0.230)	(0.230)
Net ODA received	−0.020	−0.020	−0.003	−0.003	−0.001	−0.001
	(0.015)	(0.015)	(0.024)	(0.024)	(0.023)	(0.023)
Total resource rents	−0.070	−0.069	−0.030	−0.027	−0.052	−0.049
	(0.062)	(0.062)	(0.064)	(0.064)	(0.063)	(0.063)
GDP per capita	1.384	1.370	1.684*	1.705*	0.843	0.881
	(1.040)	(1.040)	(0.899)	(0.902)	(0.913)	(0.911)
Unemployment	−0.253**	−0.255**	−0.161	−0.159	−0.159	−0.156
	(0.117)	(0.117)	(0.117)	(0.116)	(0.110)	(0.110)
Trade openness	0.016	0.016	0.019	0.019	0.026*	0.026*
	(0.012)	(0.012)	(0.014)	(0.014)	(0.015)	(0.014)

(Continues)

TABLE 4
(Continued)

	Model 1 (Pooled)	Model 2 (Pooled)	Model 3 (FE)	Model 4 (FE)	Model 5 (Two-way FE)	Model 6 (Two-way FE)
Dependency ratio	0.240	0.230	0.401	0.382	0.317	0.291
	(0.203)	(0.200)	(0.364)	(0.362)	(0.397)	(0.398)
Total population	−0.001	−0.001	0.003	0.003	0.007**	0.007**
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Gov't spending	0.770***	0.771***	0.464***	0.464***	0.443***	0.443***
	(0.040)	(0.040)	(0.057)	(0.057)	(0.055)	(0.054)
Current						
Total ministers	0.004		0.034		−0.00001	
	(0.055)		(0.048)		(0.043)	
Spending ministers		0.002		0.031		0.003
		(0.055)		(0.049)		(0.045)
Gov'ts in year	0.385	0.386	0.350*	0.347*	0.437**	0.434**
	(0.236)	(0.235)	(0.202)	(0.201)	(0.196)	(0.195)
ENLP	−0.243	−0.243	−0.352	−0.354	−0.289	−0.295
	(0.240)	(0.242)	(0.242)	(0.246)	(0.227)	(0.230)
Presidential	0.256	0.258				
	(0.422)	(0.419)				
PR electoral rules	0.644*	0.652**	0.075	0.155	0.126	0.204
	(0.328)	(0.328)	(1.386)	(1.390)	(1.273)	(1.271)
Net ODA received	−0.009	−0.009	−0.011	−0.011	−0.010	−0.010
	(0.017)	(0.017)	(0.023)	(0.023)	(0.023)	(0.023)

(Continues)

TABLE 4
(Continued)

	Model 1 (Pooled)	Model 2 (Pooled)	Model 3 (FE)	Model 4 (FE)	Model 5 (Two-way FE)	Model 6 (Two-way FE)
Total resource rents	0.167**	0.167**	0.120	0.118	0.126	0.123
	(0.069)	(0.069)	(0.081)	(0.080)	(0.086)	(0.086)
GDP per capita	−1.296	−1.285	−1.252	−1.280	−0.843	−0.877
	(1.022)	(1.022)	(0.872)	(0.873)	(0.873)	(0.873)
Unemployment	0.362***	0.363***	0.288***	0.292***	0.302***	0.307***
	(0.116)	(0.116)	(0.102)	(0.103)	(0.102)	(0.103)
Trade openness	0.008	0.008	0.007	0.007	0.006	0.006
	(0.012)	(0.012)	(0.014)	(0.014)	(0.013)	(0.013)
Dependency ratio	−0.211	−0.201	−0.199	−0.184	−0.084	−0.059
	(0.198)	(0.195)	(0.375)	(0.373)	(0.424)	(0.425)
Total population	0.001	0.001	−0.003	−0.002	−0.007**	−0.007**
	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Constant	−2.332	−2.251				
	(2.602)	(2.579)				
N	203	203	203	203	203	203

Note: One-year lagged values for covariates and the dependent variable, government spending as a percentage of GDP. All models include panel-corrected standard errors. See Table 2 for units.

*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$ (two-tailed).

budget implementation creates competing interests and makes the implementation of the budget more contentious. Put differently, it may be easier for coalition partners to agree to spending when it is in the relatively abstract form of a budget, while ultimately disagreeing on the implementation when it comes time to follow through.

Further research should examine the implementation of budgets and how rules governing modifications can exacerbate or constrain spending tensions. Scholars have already examined the way budget rules affect the CPR problem in European democracies (Hallerberg 2004; Martin and Vanberg 2013). An analogous study in African democracies may help us to better understand the relationship between a budget's passage and its ultimate implementation.

Conclusion

While government composition has long been a topic of interest to scholars of European parliamentary democracies, there is considerably less existing research on the effect that government composition has on outcomes, such as levels of government spending, in developing democracies. In fact, it is only quite recently that scholars of African politics have begun to consider parties to be institutional tools for building and maintaining legislative support (Ariotti and Golder 2018; Barkan 2008; Opalo 2019, 2020), and there is even less attention to the downstream consequences of using parties and legislatures in this way. The result of the dearth of research on government composition in Africa is that we know almost nothing about the relationship between government composition and levels of government spending in the context of African democracies. These democracies represent varied institutional histories, types of democracy, and different coalition dynamics that emerge from a diverse set of legislative bargaining environments.

This article examines support for the broad argument that increasing the number of parties (or ministers) in a cabinet creates pressures that lead to increased spending when parties (or ministers) are able to externalize the cost of such actions. The logic of the CPR problem, as it is commonly known, finds support at the party level in some work (Bawn and Rosenbluth 2006; Martin and Vanberg 2013) and at the minister level in other scholarship (Perotti and Kontopoulos 2002; Volkerink and de Haan 2001;

Wehner 2010). I examine support for both the party-level and minister-level hypotheses, using new data on government composition in African democratic cabinets. I find support for the argument that moving from a single-party government to a coalition government increases overall government spending. I find no evidence to suggest that there is a systematic relationship between the number of ministers and levels of government spending.

Although fine-grained data on party-spending priorities and the number of parties in each government is unavailable at this stage, this analysis does permit a first cut at understanding the relationship between government attributes—such as partisan composition and the number of ministers—and levels of government spending. Recent work has already begun to examine the importance of government stability on budget adjustments (Yabré, Semedo, and Ouédraogo 2019). Future research should consider how budget procedures, such as nonbinding appropriations, may affect the relationship between government attributes and spending levels when budgets are passed *and* implemented. Relatedly, scholarship from other regions of the world has noted the importance of legislative institutions, such as legislative committees, for negotiating and monitoring agreements (Martin and Vanberg 2004; Weingast and Marshall 1988), and future work should examine existing arguments about the role played by junior ministers in policing coalition bargains (Lipsmeyer and Pierce 2011; Thies 2001). A better understanding of these dynamics with respect to the budget process could shed additional light on the determinants of government spending.

This article joins others in drawing attention to formal institutions and the way they shape African politics (Opalo 2019, 2020). A long tradition of scholarship has focused on the use of ethnicity and patronage in maintaining networks of power. While these informal structures certainly play an important role in our understanding of some political phenomenon in Africa, they have limited the development of a broader dialogue with scholarship on other world regions that compares how formal institutions are affected by the contexts in which they operate, as well as those instances in which similar institutions produce similar outcomes. In examining the effects of government composition on levels of government spending, I hope to bring African democracies into the broader discussions about budgetary policy and the role of constraining institutions. A better understanding of the effects of formal institutions in African democracies, and the ways in which

they interact with the more familiar informal institutions, is an important avenue for future research on African politics.

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ENDNOTES

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1. Wehner (2010) uses a Freedom House value of 5.5 or lower to select his sample; this produces more variety but includes only Botswana, The Gambia, and Mauritius as a result of the measure of democracy and the time period studied (1970–98). Elgie and McMenamin (2008) also considerably expand the sample, but they use Freedom House to select democracies with at least 10 continuous years from 1975 to 2004, which again limits the number of African countries included.

2. For a critique of these arguments about "big man" rulers and the study of African politics, see Mkandawire (2015).

3. It is worth noting that even among OECD countries, levels of fiscal transparency are varied (Alt and Lassen 2006).

4. For a more in-depth treatment of common-pool-resource problems, see Weingast, Shepsle, and Johnsen (1981) and Ostrom (1990), as well as summaries in Hallerberg and Marier (2004) and Wehner (2010).

5. Carlson (2018) suggests that voters in low-information environments may rely on comparing their outcomes to those around them in order to assess government performance; because voters do not know the size of the entire revenue that the government *could* have distributed, they may overestimate the government's attention to their needs. This is an important possibility that is beyond the scope of this article, but should be considered in future research on this topic in African democracies.

6. In keeping with existing scholarship, I group semipresidential democracies with parliamentary democracies because the government is subject to legislative responsibility in both instances. Coalitions formed in approximately 51% of presidential democracies and 48% of nonpresidential democracies identified between 1990 and 2015; this amounts to 86 out of 176 total governments identified for this time period. It is important to note that formal partisan coalitions are much more common than "governments of national unity," which are frequently associated with a crisis.

7. As I discuss more extensively in the empirics, scholars who count ministers also consider who should be counted among the relevant "spending ministers" and which ministerial portfolios should be excluded.

8. Indriðason and Bowler (2014) argue that decisions regarding the size of the cabinet are influenced by inter- and intraparty politics. Among other findings, their analyses suggest that the inclusion of more parties in government increases cabinet size, as does an increase in legislature size, but a broader ideological span between government parties reduces cabinet size.

9. While members added during the 1990s–2000s have slowly expanded global coverage, the sample used in many analyses remains largely European.

10. The member states are listed on the African Union's website.

11. I follow a common practice of considering a country to be democratic in any year in which it scores a 6 or higher on the Polity IV scale (Johnson and Leeds 2011; Leeds 2003; Weeks 2012). Polity IV codes countries on a scale of −10 (most authoritarian) to 10 (most democratic) for each year (Marshall, Gurr, and Jaggers 2016).

12. The variable is "general government final consumption expenditure (% of GDP)." See The World Bank data for more information. The data were downloaded via Stata in October 2019.

13. Burkina Faso and Nigeria are coded as democratic but only have spending data available for only one year of this time frame, which ultimately excludes them from the analysis due to the importance of temporal lags. Two alternate measures of government spending suggested by reviewers are reported in the online supporting information. The government spending variable reported here provided the best country coverage for the time frame in question.

14. This means a government in which all full-rank ministerial positions are held by a single party is not considered a coalition, even if some deputy or assistant ministers are members of another party. It also means that at least two of the parties in government must possess legislative seats in order to be counted as a coalition. Small parties that lack legislative seats are not, on their own, enough to constitute a coalition partnership by these criteria. Ministers who are denoted as "independents" or "technocrats" are also excluded, as they cannot be directly linked to legislative support.

15. This occurs for a variety of reasons, including the inability to determine seat shares attributable to each party, vague references to a coalition government that includes one major party and a collection of "smaller support parties," etc. The challenge of collecting data on government composition in African democracies is discussed at greater length in Ariotti and Golder (2018).

16. My efforts to collect and make legible additional data on African governments are ongoing. As a part of this long-term effort, I will continue to make the data I collect available to other scholars.

17. As is standard in the government-formation literature, I code a new government as forming when there has been an election, a change in the identity of the head of the government, a change in the cabinet's partisan composition, or the government resigns (Müller and Strøm 2000).

18. Trend lines showing the change in cabinet size for each country over the years it appears in the sample are shown in the online supporting informationx.

19. For example, some countries have a separate Minister of Finance and Minister of the Economy; others combine these roles as a single portfolio. Others have norms of assigning portfolios to the President and Vice President, all of which is excluded in the spending minister count.

20. The probability of a partisan coalition forming changes across levels of ENLP, which is discussed in other work by Ariotti (2019).

21. The dependency ratio is the population aged 0–14 and over 65 relative to the "working age" population (15–64). The dependency ratio provides an indication of the age structure of a country's population and trends in its social needs (https://esa.un.org/unpd/wpp/General/GlossaryDemographicTerms.aspx).

22. This finding is corroborated by Martin and Vanberg (2013).

23. LeVan and Assenov (2015) take a different approach to examining the relationship between patronage spending and government composition. They use OLS estimates with panel-corrected standard errors, but they do not include any lags or country fixed effects. This forces the effect of all variables to be felt concurrently and with no memory. These assumptions would be problematic in the context of government spending over time as it is considered here.

24. I am grateful to an anonymous reviewer for noting that the global economic crisis could potentially affect the results and suggesting the inclusion of two-way fixed effects.

25. The sole exception in this time frame is Madagascar, whose electoral system changes from a mixed system in 2006 to a majoritarian system in 2007. Including the binary indicators for presidentialism and PR electoral rules in both the lagged and current values would introduce collinearity.

26 However, the model also suggests that when coalitions are present in the current and prior year, there is no statistically significant difference in government spending. The same is true for the case in which there were 12 months of coalition in the current year, and none in the prior year.

REFERENCES

Alt, James E., and David Dreyer Lassen. 2006. "Transparency, Political Polarization, and Political Budget Cycles in OECD Countries." *American Journal of Political Science* 50: 530–50.

Amorim Neto, Octavio. 2006. "The Presidential Calculus: Executive Policy Making and Cabinet Formation in the Americas." *Comparative Political Studies* 39: 413–40.

Ariotti, Margaret H. 2019. "Coalition Governments in African Democracies." *Presented at the Annual Meeting of the American Political Science Association*. Washington, D.C. (August/September).

Ariotti, Margaret H., and Sona N. Golder. 2018. "Partisan Portfolio Allocation in African Democracies." *Comparative Political Studies* 51: 341–79.

Arriola, Leonardo R. 2009. "Patronage and Political Stability in Africa." *Comparative Political Studies* 42: 1339–62.

Arriola, Leonardo R. 2013. *Multiethnic Coalitions in Africa: Business Financing of Opposition Electoral Campaigns*. New York, NY: Cambridge University Press.

Arriola, Leonardo R., and Martha C. Johnson. 2014. "Ethnic Politics and Women's Empowerment in Africa: Ministerial Appointments to Executive Cabinets." *American Journal of Political Science* 58: 495–510.

Banks Arthur S. & Wilson, Kenneth A. 2014. *Cross-National Time-Series Data Archive*. Jerusalem: Databanks International. Accessed September 7, 2020. www.databanksinternational.com

Barkan, Joel. 2008. "Legislatures on the Rise?" *Journal of Democracy* 19: 124–37.

Barkan Joel D. 2009. "African Legislatures and the 'Third Wave' of Democratization." In *Legislative Power in Emerging African Democracies*, ed. Joel D. Barkan Boulder, CO: Lynne Rienner Publishers, chapter 1, pp. 1–32.

Basedau, Matthias, and Alexander Stroh. 2012. "How ethnic are African parties really? Evidence from four Francophone countries." *International Political Science Review* 33: 5–24.

Bawn, Kathleen, and Frances Rosenbluth. 2006. "Short Versus Long Coalitions: Electoral Accountability and the Size of the Public Sector." *American Journal of Political Science* 50: 251–65.

Bormann Nils-Christian, and Matt Golder. 2013. "Democratic Electoral Systems Around the World, 1946–2011." *Electoral Studies* 32: 360–69.

Bratton, Michael, and Nicolas van de Walle. 1997. *Democratic Experiments in Africa: Regime Transitions in Comparative Perspective*. New York: Cambridge University Press.

Bratton, Michael, Ravi Bhavnani, and Tse-Hsin Chen. 2012. "Voting Intentions in Africa: Ethnic, Economic, or Partisan?" *Commonwealth & Comparative Politics* 50: 27–52.

Brierley, Sarah. 2012. "Party unity and presidential dominance: parliamentary development in the fourth republic of Ghana." *Journal of Contemporary African Studies* 30: 419–39.

Bueno de Mesquita Bruce, and Alastair Smith. 2009. "A Political Economy of Aid." *International Organization* 63: 309–40.

Carlson, Elizabeth. 2018. "The Relevance of Relative Distribution: Favoritism, Information, and Vote Choice in Africa." *Comparative Political Studies* 51: 1531–62.

Chaisty, Paul, Nic Cheeseman, and Timothy J. Power. 2018. *Coalitional Presidentialism in Comparative Perspective: Minority Presidents in Multiparty Systems*. Oxford, UK: Oxford University Press.

Chaisty, Paul, Nic Cheeseman, and Timothy Power. 2014. "Rethinking the 'Presidentialism Debate': Conceptualizing Coalitional Politics in Cross-Regional Perspective." *Democratization* 21: 72–94.

Cheibub, José Antonio, Adam Przeworski, and Sebastian Saiegh. 2004. "Government Coalitions and Legislative Success under Presidentialism and Parliamentarism." *British Journal of Political Science* 34: 565–87.

Cheibub, José Antonio, and Fernando Limongi. 2002. "Modes of Government Formation and the Survival of Democratic Regimes: Presidentialism and Parliamentarism Reconsidered." *Annual Review of Political Science* 5: 151–79.

De Haan Jürgen, Jan-Egbert Sturm, and Geert Beekhuis. 1999. "The Weak Government Thesis: Some New Evidence." *Public Choice* 101: 163–76.

de Renzio, Paolo, and Rebecca Simson. 2013. Transparency for what? *The usefulness of publicly available budget information in African countries*. Report International Budget Partnership and Overseas Development Institute.

Elgie, Robert, and Iain McMenamin. 2008. "Political Fragmentation, fiscal deficits and political institutionalisation." *Public Choice* 136: 255–67.

Elischer, Sebastian. 2013. *Political Parties in Africa: Ethnicity and Party Formation*. New York: Cambridge University Press.

Erdmann, Gero. 2004. "Party research: Western European bias and the 'African labyrinth'." *Democratization* 11: 63–87.

Ferree, Karen E. 2010. "The Social Origins of Electoral Volatility in Africa." *British Journal of Political Science* 40: 759–79.

Fomunyoh, Christopher. 2001. "Democratization in Fits and Starts." *Journal of Democracy* 12: 37–50.

Fortunato, David, and Matt W Loftis. 2018. "Cabinet Durability and Fiscal Discipline." *American Political Science Review* 112: 939–53.

Francois, Patrick, Ilia Rainer, and Francesco Trebbi. 2015. "How is Power Shared in Africa?" *Econometrica* 83: 465–503.

Golder, Matt, and Leonard Wantchekon. 2004. "Africa: Dictatorial and Democratic Electoral Systems Since 1946." In *Handbook of Electoral System Design*, ed. Josep Colomer. London: Palgrave.

Goldsmith, Arthur A. 1999. "Africa's Overgrown State Reconsidered: Bureaucracy and Economic Growth." *World Politics* 51: 520–46.

Gottlieb, Jessica, and Katrina Kosec. 2019. "The Countervailing Effects of Competition on Public Goods Provision: When Bargaining Inefficiencies Lead to Bad Outcomes." *American Political Science Review* 113: 88–107.

Hallerberg, Mark. 2004. *Domestic Budgets in a United Europe: Fiscal Governance from the End of Bretton Woods to EMU*. New York: Cornell University Press.

Hallerberg, Mark, and Patrik Marier. 2004. "Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Caribbean Countries." *American Journal of Political Science* 48: 571–87.

Harding, Robin. 2015. "Attribution and Accountability: Voting for Roads in Ghana." *World Politics* 67: 656–89.

Horowitz, Donald L. 1985. *Ethnic Groups in Conflict*. Berkeley: University of California Press.

Huntington, Samuel. 1991. *The Third Wave: Democratization in the Late Twentieth Century*. Oklahoma: University of Oklahoma Press.

Hyden, Goran. 2011. "Barriers to Party Systems in Africa: The Movement Legacy." *Africa Review* 3: 103–22.

Indriðason, Indriði, and Shaun Bowler. 2014. "Determinants of cabinet size." *European Journal of Political Research* 53: 381–403.

Jackson, Robert H., and Carl G. Rosberg. 1982. *Personal Rule in Black Africa*. Berkeley, CA: University of California Press.

Johnson, Jesse C., and Brett Ashley Leeds. 2011. "Defense Pacts: A Prescription for Peace?" *Foreign Policy Analysis* 7: 45–65.

Kadima, Denis. 2014. "An Introduction to the Politics of Party Alliances and Coalitions in Sociallydivided Africa." *Journal of African Elections* 13: 1–24.

Kellam, Marisa. 2015. "Parties for Hire: How Particularistic Parties Influence Presidents' Governing Strategies." *Party Politics* 21: 515–26.

Koter, Dominika. 2016. *Beyond Ethnic Politics in Africa*. New York: Cambridge University Press.

Kroeger, Alex. 2020. "Dominant Party Rule, Elections, and Cabinet Instability in African Autocracies." *British Journal of Political Science* 50: 79–101.

Kuenzi, Michelle, and Gina Lambright. 2001. "Party System Institutionalization in 30 African Countries." *Party Politics* 7: 437–68.

Leeds, Brett Ashley. 2003. "Do Alliances Deter Aggression? The Influence of Military Alliances on the Initiation of Militarized Interstate Disputes." *American Journal of Political Science* 47: 427–39.

LeVan, A Carl, and Assen Assenov. 2015. "Parties or Portfolio? The Economic Consequences of Africa's Big Cabinets." *Government and Opposition* 51: 661–90.

Lindberg, Staffan I. 2007. "Institutionalization of Party Systems? Stability and Fluidity among Legislative Parties in Africa's Democracies." *Government and Opposition* 42: 215–41.

Lindberg, Staffan I., and Minion K. C. Morrison. 2005. "Exploring Voter Alignments in Africa: Core and Swing Voters in Ghana." *The Journal of Modern African Studies* 43: 565–86.

Lipsmeyer, Christine S., and Heather N. Pierce. 2011. "The Eyes that Bind: Junior Ministers as Oversight Mechanisms in Coalition Governments." *Journal of Politics* 73: 1152–64.

Manning, Carrie. 2005. "Assessing African Party Systems after the Third Wave." *Party Politics* 11: 707–27.

Marshall, Monty G., Ted Robert Gurr, and Keith Jaggers. 2016. Polity IV Project: Political Regime Characteristics and Transitions 1800–2015. *Dataset Users' Manual*. http://www.systemicpeace.org/inscrdata.html: Center for Systemic Peace and Societal-Systems Research Inc.

Martin, Lanny W., and Georg Vanberg. 2004. "Policing the Bargain: Coalition Government and Parliamentary Scrutiny." *American Journal of Political Science* 48: 13–27.

Martin, Lanny W., and Georg Vanberg. 2013. "Multiparty Government, Fiscal Institutions, and Public Spending." *The Journal of Politics* 75: 953–67.

Milesi-Ferretti, Gian Maria, Roberto Perotti, and Massimo Rostagno. 2002. "Electoral Systems and Public Spending." *Quarterly Journal of Economics* 117: 609–57.

Mkandawire, Thandika. 2015. "Neopatrimonialism and the Political Economy of Economic Performance in Africa." *World Politics* 67: 563–612.

Müller, Wolfgang C., and Kaare Strøm, eds. 2000. *Coalition Governments in Western Europe*. Oxford: Oxford University Press.

Opalo, Kennedy Ochieng'. 2019. *Legislative Development in Africa: Politics and Postcolonial Legacies*. Cambridge, UK: Cambridge University Press.

Opalo, Kennedy Ochieng'. 2020. "Constrained Presidential Power in Africa? Legislative Independence and Executive Rule-Making in Kenya, 1963–2013." *British Journal of Political Science* 50: 1341–1358.

Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Perotti, Roberto, and Yianos Kontopoulos. 2002. "Fragmented Fiscal Policy." *Journal of Public Economics* 86: 191–222.

Persson, Torsten, Gerard Roland, and Guido Tabellini. 2007. "Electoral Rules and Government Spending in Parliamentary Democracies." *Quarterly Journal of Political Science* 2: 1–34.

Randall, Vicky, and Lars Svåsand. 2002. "Political Parties and Democratic Consolidation in Africa." *Democratization* 9: 30–52.

Ricciuti, Roberto. 2004. "Political Fragmentation and Fiscal Outcomes." *Public Choice* 118: 365–88.

Roubini, Nouriel, and Jeffrey D. Sachs. 1989a. "Government Spending and Budget Deficits in the Industrial Countries." *Economic Policy* 99–132.

Roubini, Nouriel, and Jeffrey Sachs. 1989b. "Political and Economic Determinants of Budget Deficits in the Industrial Democracies." *European Economic Review* 33: 903–38.

Schaltegger, Christoph A., and Lars P. Feld. 2009. "Do large cabinets favor large governments? Evidence on the fiscal commons problem for Swiss Cantons." *Journal of Public Economics* 93: 35–47.

Smith, Alastair. 2008. "The Perils of Unearned Income." *Journal of Politics* 70: 780–93.

Thies, Michael F. 2001. "Keeping Tabs on Partners: The Logic of Delegation in Coalition Governments." *American Journal of Political Science* 45: 580–98.

van de Walle, Nicolas. 2003. "Presidentialism and Clientelism in Africa's Emerging Party Systems." *Journal of Modern African Studies* 41: 297–321.

Volkerink, Bjorn, and Jakob de Haan. 2001. "Fragmented Government Effects on Fiscal Policy: New Evidence." *Public Choice* 109: 221–42.

Weeks, Jessica L. 2012. "Strongmen and Straw Men: Authoritarian Regimes and the Initiation of International Conflict." *American Political Science Review* 106: 326–47.

Wehner, Joachim. 2010. "Cabinet Structure and Fiscal Policy Outcomes." *European Journal of Political Research* 49: 631–53.

Weingast, Barry R., and Mark J. Moran. 1983. "Bureaucratic Discretion or Congressional Control? Regulatory Policymaking by the Federal Trade Commission." *Journal of Political Economy* 91: 765–800.

Weingast, Barry R., and William J. Marshall. 1988. "The Industrial Organization of Congress; or, Why Legislatures, Like Firms, Are Not Organized as Markets." *Journal of Political Economy* 96: 132–63.

Weingast, Barry R., Kenneth A. Shepsle, and C. Johnsen. 1981. "The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics." *Journal of Political Economy* 89: 642–64.

Woo, Jaejoon. 2003. "Economic, Political, and Institutional Determinants of Public Deficits." *Journal of Public Economics* 87: 387–426.

World Development Indicators. 2017. http://data.worldbank.org/: The World Bank.

Yabré, Tobignaré, Gervasio Semedo, and Idrissa M. Ouédraogo. 2019. "Stabilité du gouvernement et ajustement budgétaire de pays d'Afrique subsaharienne." *Revue française d'économie* XXXIV: 25–89.

Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's web site:

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