

How the Cases You Choose Affect the Answers You Get: Portfolio Allocation Beyond Postwar Western Europe*

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ABSTRACT

Is there a prime ministerial (PM) party advantage in ministerial portfolio allocation within coalition governments? Early models of government formation predicted a PM party advantage, but empirical studies of postwar Western Europe found roughly proportional allocation with a slight PM party disadvantage. Scholars have sought to resolve this disconnect by developing new theoretical models that better match ‘empirical reality.’ In this letter, we question the purported empirical reality, highlighting the potential danger of repeatedly testing and revising theories based largely on the same empirical cases. Using original data on a global sample of postwar non-presidential democracies, interwar European democracies, and subnational Indian governments, we find the postwar Western European PM party disadvantage is not representative of broader patterns of portfolio allocation. Outside the postwar Western European cases that dominate the literature, PM parties are often advantaged, suggesting the empirical basis for recent theoretical innovations may be narrower than typically assumed.

KEYWORDS: portfolio allocation; PM party advantage; formateur advantage; Gamson’s Law; government formation

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Introduction

Is there a ‘prime ministerial party advantage’ when it comes to allocating cabinet positions in coalition governments? Cabinet portfolio allocation matters because policy in most democracies is driven by governments. Ministerial portfolios provide cabinet parties with agenda-setting and gate-keeping powers that shape government policy (Laver and Shepsle, 1996; Bäck and Carroll, 2025). This is especially true for the party controlling the prime ministership. How cabinet posts are allocated influences important outcomes like political representation and government accountability (Ferland and Golder, 2021). Despite its relevance, important gaps between theoretical and empirical accounts of portfolio allocation remain.

In non-presidential democracies,¹ voters do not elect the prime minister or cabinet members. Instead, legislative parties bargain with each other to determine who will form the government. Each party brings resources, such as their legislative strength, to the table in these negotiations. Early formal models of government formation, based around an alternating offers bargaining framework, predicted that the proposer, or formateur party, would be advantaged when it came to the allocation of ministerial portfolios (Austen-Smith and Banks, 1988; Baron and Ferejohn, 1989). In effect, the formateur party, which would become the PM party if successful, was expected to receive a greater share of portfolios than was warranted based on the share of resources it provided to the government. This theoretical prediction ran counter to a much earlier claim made by Gamson (1961) that cabinet parties would receive ministerial portfolios in proportion to the resources each contributes to the government. More importantly, the prediction failed to receive empirical support. Empirical studies of portfolio allocation in postwar Western Europe repeatedly found that ministerial portfolios were allocated in a fairly proportional way and that large parties, such as PM parties, were, if anything, at a slight disadvantage. Contrary to expectations, PM parties received less than their fair share (Browne and Franklin, 1973; Warwick and Druckman, 2001, 2006; Bäck, Meier and Persson, 2009; Falcó-Gimeno and Indriðason, 2013). In recent years, government formation scholars have attempted to resolve this troubling and long-standing disconnect between theory and empirics by developing new theoretical models that better match ‘empirical reality’ (Bassi, 2013; Martin and Vanberg, 2020; Cox, 2021). These models, which have been successful at achieving this goal, are general and define their empirical domain broadly.

¹Parliamentary or semi-presidential.

In this letter, we show that the ‘empirical reality’ motivating these newer models is strongly contingent on case selection. Using original data on (i) a global sample of postwar non-presidential democracies, (ii) interwar European democracies, and (iii) subnational Indian governments, we find that the PM party disadvantage documented in a core set of postwar Western European countries does not generalize. Once the universe of cases is expanded, PM parties enjoy an advantage. Our findings suggest that repeatedly testing and revising theories against the same narrow set of cases has led the literature to mistake a regional peculiarity for a general pattern.

Power-sharing within Cabinets: Theory and Empirics

In most non-presidential democracies, it is rare for a single party to control a legislative majority. However, the existence of the vote of no confidence in these democracies requires that governments obtain the implicit support of a legislative majority to enter and stay office. Typically, legislative parties bargain with each other to form some kind of coalition government. When two or more parties enter government together, they must agree, among other things, on how to allocate ministerial positions among themselves. A crucial part of these negotiations includes which party receives the prime ministership, the most important cabinet post (Laver and Schofield, 1998; Glasgow, Golder and Golder, 2011). Parties care about ministerial positions both because of the office benefits they generate and the opportunity they provide to shape government policy (Müller and Strøm, 2000). But how are ministerial posts allocated across the various members of a coalition government?

In an early discussion of portfolio allocation patterns, Gamson (1961: 376) claims that ministerial portfolios will be allocated proportionally to the resources that coalition parties contribute to any potential government. The resources that a party brings to the bargaining table can be thought of in terms of their legislative seats (Browne and Franklin, 1973; Schofield and Laver, 1985) or in terms of their bargaining power or ‘pivotality’ in the government formation process (Ansolabehere et al., 2005). Many scholars found Gamson’s claim dissatisfying because it lacked “deep theoretical underpinnings” (Cutler et al., 2016: 34). The earliest formal models of coalition bargaining in a government formation context adopted an alternating offers framework (Baron and Ferejohn, 1989: 1193-5). In these bargaining models, the actor who makes proposals regarding the division of portfolios ends up with a larger share of the pie than expected given the

resources they bring to the table. The proposer, or formateur, is typically a large party and, if successful, is expected to become the prime ministerial party (Warwick and Druckman, 2006; Akirav and Cox, 2018). These early theoretical models, thus, predict that the prime ministerial party (and large parties in general) will be advantaged in the portfolio allocation process. Portfolios may be allocated in a roughly proportional way but there should be a prime ministerial party bonus.

But what did the data say? The first empirical assessments of portfolio allocation found that government parties in postwar Western European non-presidential democracies receive a portfolio share roughly proportional to their share of the government's legislative seats. However, closer inspection revealed a consistent deviation from perfect 'Gamsonian' proportionality, in which larger parties, including prime ministerial parties, are penalized (Warwick and Druckman, 2001: 628-630) and smaller, non-PM parties are favored (Browne and Franklin, 1973; Bäck, Meier and Persson, 2009). In effect, it appeared that the real-world government formation process was characterized by a PM party *disadvantage*. This empirical pattern was at odds with the theoretical predictions made by Baron-Ferejohn type bargaining models.

This theoretical-empirical disconnect was troubling. As Warwick and Druckman (2001: 628) noted, "We thus have a major disjuncture between the dominant theoretical direction on the issue of coalition payoffs and the available evidence." Other scholars spoke of "a notorious contradiction" (Cutler et al., 2016: 31), a "stark contrast" (Falcó-Gimeno and Indriðason, 2013: 223), and a "fundamental tension" (Warwick and Druckman, 2006: 660) between theory and empirics.

In recent years, scholars have sought to resolve this apparent disconnect between theory and empirics in one of two ways. One strategy has been to use alternative measurement and estimation strategies to ascertain whether the empirical evidence of a PM party disadvantage in the data is 'real'. Early analyses of portfolio allocation operationalized the resources coalition parties brought to the table in terms of their share of the cabinet's legislative seats (Browne and Franklin, 1973). Other studies have operationalized a party's resources in terms of various 'bargaining weights' that take account of, for example, a party's pivotality to the creation of minimal winning coalitions (Ansolabehere et al., 2005). Scholars have investigated the extent to which the proportionality of portfolio allocation varies with the presence of pre-electoral coalitions (Carroll and Cox, 2007), the uncertainty and complexity in the bargaining environment (Falcó-Gimeno and Indriðason, 2013), the role of monarchical heads of state (Akirav and Cox, 2018), and the perceived impor-

tance of ministerial positions (Warwick and Druckman, 2001, 2006). Cutler et al. (2016) propose a different estimation strategy to earlier studies, jointly estimating which parties enter government and how ministerial portfolios are allocated among them. To a large extent, these different measurement and estimation strategies were used to examine portfolio allocation in the same set of postwar Western European countries that had given rise to the theoretical-empirical disconnect. These analyses continued to produce empirical results that deviated from theoretical predictions. While ministerial portfolios were allocated fairly proportionally, PM and large parties generally received less than their fair share of cabinet posts.

The second response to the apparent theoretical-empirical disconnect has been to take the empirical evidence as given and develop new theoretical models whose predictions better match the empirical ‘facts’. Several recent bargaining models achieve this by modifying key assumptions: endogenizing the choice of formateur (Bassi, 2013), adopting an alternating demands framework (Morrelli, 1999), incorporating government dissolution (Indriðason, 2015), or accounting for electoral constraints imposed by voters (Martin and Vanberg, 2020). Most explicitly, Cox (2021) presents a model where intraparty factions produce proportional portfolio allocation with a small-party bonus, directly resolving the ‘portfolio allocation paradox.’ Other scholars have made more radical theoretical departures from the existing literature, arguing that the assumptions underlying most bargaining models are artificial and lacking in empirical support (Laver, de Marchi and Mutlu, 2011; Golder, Golder and Siegel, 2012).

In what follows, we question how general the ‘empirical reality’ is that has motivated these newer theoretical models. Most of the models are general in their approach and have predictions that apply to all non-presidential democracies.² Yet scholars have largely assessed them with empirical evidence drawn from postwar Western Europe, despite hints that portfolio allocation may be different in other world regions (Carroll and Cox, 2007; Ariotti and Golder, 2018; Chaisty and Power, 2024; Jang, 2024) or in earlier time periods (Akirav and Cox, 2018). When scholars first examined empirical patterns of portfolio allocation, there were few non-presidential democracies outside of Western Europe (Browne and Franklin, 1973; Schofield and Laver, 1985). Data on portfolio allocation was also less readily available from other regions. Over time, questions of ministerial portfolio allocation became so tightly associated with postwar Western Europe that scholars rarely considered the fact that these theoretical arguments applied elsewhere.

²For example, Baron and Ferejohn (1989: 1193) address “multiparty parliamentary systems when no party has a majority of seats”.

That the vast majority of empirical and theoretical innovations with respect to ministerial portfolio allocation in non-presidential democracies have focused on the same small set of postwar West European countries comes at a potential cost. As [Laver and Schofield \(1998: 8\)](#) noted, coalition research in the European politics tradition has “been a rather incestuous process. There is, for example, really only one universe of data of European coalition governments – the set of governments that were actually formed. [...] The original data on coalition governments were collected to test early coalition theories. As a result of these tests [the data] were used to nurture new theories, theories which the same data were used in turn to test.” The first empirical assessment of portfolio allocation focused on governments in twelve postwar Western European countries (plus Israel) ([Browne and Franklin, 1973](#)); subsequent analyses used the same twelve countries ([Schofield and Laver, 1985](#); [Warwick and Druckman, 2001](#)). [Warwick and Druckman \(2006\)](#) later included two additional Western European countries. Since then, portfolio allocation studies have largely focused on postwar coalition governments in these same fourteen countries ([Bäck, Meier and Persson, 2009](#); [Falcó-Gimeno and Indriðason, 2013](#); [Cox, 2021](#)).³

To what extent do the patterns of portfolio allocation in postwar Western Europe, and in particular evidence of a PM party disadvantage, generalize to other time periods and regions of the world? Below, we provide an examination of portfolio allocation from a global perspective. Our analyses compare patterns of portfolio allocation across geographic regions, time periods, and levels of government.

Portfolio Allocation Revisited

We analyze four samples of government formation opportunities in non-presidential democracies: (1) the “Core-14” sample of 14 Western European countries typically used in portfolio allocation studies;⁴ (2) the “Postwar Global Sample” of 57 additional non-presidential democracies between 1946 and 2018; (3) the “Interwar Europe Sample” of 22 non-presidential European democracies between 1919 and 1939; and (4) the “India sample” of 26 Indian federal states.⁵ Political scientists have not systematically studied the PM

³[Cutler et al. \(2016\)](#) add one Western European country and Australia.

⁴Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, and Sweden.

⁵Countries are considered democratic in the postwar period if they score at least 6 on Polity IV’s –10 to +10 scale ([Marshall, Gurr and Jaggers, 2019](#)) and in the interwar period if coded as such in the [Boix, Miller and Rosato \(2013\)](#) dataset. Online Appendix A provides detailed information on the selection criteria and the specific cases included in each sample.

party advantage predicted by formal models in the last three of these samples even though none of the existing theoretical models limit their predictions to a particular set of Western European non-presidential democracies.

All our cases feature a vote of no confidence and thus fit the fundamental logic outlined by theoretical models of portfolio allocation. All our cases also feature coalition governments, i.e., cabinets with ministers from at least two legislative parties. The 476 coalition cabinets in postwar global democracies, 285 coalitions from interwar Europe, and 111 multiparty cabinets from Indian states increase the number of cases typically analyzed, the 344 cabinets in the Core-14 sample, by 350 per cent. Comparing the Core-14 Sample with the others on six institutional measures reveals no consistent differences between them, assuaging concerns about the fundamental comparability of the newly introduced cases (see Online Appendix B).

Our unit of analysis is party i nested in cabinet c . The dependent variable $Portfolioshare_{ic}$ measures the share of ministerial portfolios in cabinet c controlled by party i . To empirically examine whether PM parties are favored by the portfolio allocation process, we include two key independent variables. The first, PM_{ic} , is a dichotomous variable that equals 1 if party i in cabinet c controls the prime ministerial position and 0 otherwise. The second, $Seatshare_{ic}$, captures the share of legislative seats that party i controls out of the total number of seats controlled by all of the parties in cabinet c . Building on existing practices in the literature, we start with a baseline model that employs ordinary least squares regression with robust standard errors to take account of any heteroskedasticity:⁶

$$Portfolioshare_{ic} = \beta_0 + \beta_1 PM_{ic} + \beta_2 Seatshare_{ic} + \epsilon_{ic}.$$

The coefficient β_1 is our quantity of interest and indicates whether PM parties do better or worse than non-PM parties after controlling for the resources these parties bring to the table through $Seatshare_{ic}$. This coefficient has typically been found to be negative in postwar Western Europe, indicating a PM party disadvantage in the portfolio allocation process.

There are, however, reasons to think that our baseline model may not be entirely appropriate. It compares the average PM party to the average non-PM party across all cabinets in the sample. Conventions of

⁶Below we discuss why the baseline model may not be methodologically appropriate and suggest alternatives. We nevertheless retain it to compare our results to existing work.

portfolio allocation, though, may vary across countries (Akirav, 2020). To address this issue and any other unobserved, time-invariant factors that differ between countries, we estimate a second model that includes country fixed effects. We also employ country-clustered standard errors to account for the lack of independence between observations in the same country. The inclusion of country fixed effects means that this second model compares the average PM party to the average non-PM party from the same country. Patterns of portfolio allocation may also vary across cabinets within the same country for unobserved reasons. Thus, we estimate a third model that includes cabinet fixed effects. In this model, we are comparing the PM party with all other parties in the same cabinet. As before, we cluster standard errors by country. We estimate each of these three models on our four different samples.

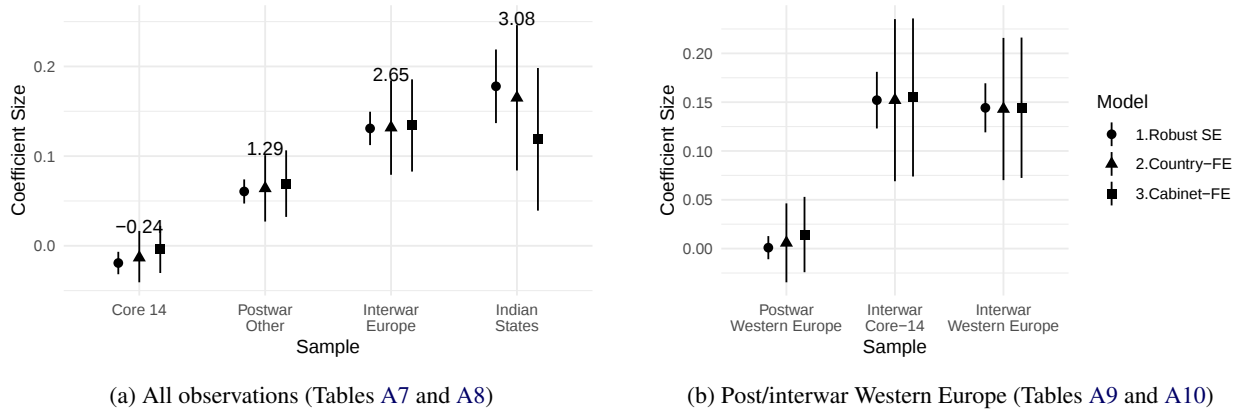
Results

The full results of our analysis can be found in Online Appendix C (OA C). In Figure 1, we display the estimated PM party effect (β_1) across each of our four samples and three model specifications (Figure 1a). We focus first on the replication of existing models and the estimated PM party bonus in the Core-14 sample in the absence of any fixed effects (circles). In line with existing studies, we find a statistically significant negative effect indicating that PM parties are disadvantaged in the portfolio allocation process. Once we introduce country (triangles) or cabinet fixed effects (squares), the PM party effect remains negative but becomes statistically insignificant. The results from the Core-14 sample indicate that PM parties are either disadvantaged or treated similarly to other parties. Does this pattern generalize?

In striking contrast to the Core-14 results, we find a positive PM party effect in every other sample and specification that we consider, indicating that the Core-14 disadvantage is the exception rather than the rule. The estimated effects do not only reject zero effects in all nine models, they are also significantly larger than the Core-14 PM party effect.⁷ While the differences between model specifications within samples are negligible, notable variation between our regional samples exists. We estimate the strongest PM party bonus in Indian states where the PM party can expect roughly 3 more portfolios in a 20-ministry cabinet than another party of its size, and smaller advantages in Interwar European democracies (2.66 additional portfolios) and postwar democracies across the globe (1.3). In addition to offering very little support for the

⁷Hausmann tests across all eight fixed effects models reject the null hypothesis that random effects models are the appropriate modeling choice.

Figure 1: Estimated PM party bonus in four different samples with average portfolio gain in a 20-ministry cabinet (left) and varying spatial and temporal scope for Western European cases (right).



predictions of recent formal models of coalition bargaining, our results also open up new questions about existing differences in the strength of the PM party bonus across different regions and political cultures.

Next, we explore the stability of the PM party disadvantage in Western Europe to alternative spatial and temporal scope conditions. In Figure 1b, we present PM party estimates for an extended postwar Western European sample, which adds the French 4th Republic, Greece, and the United Kingdom to the Core-14 countries. Moreover, we investigate the PM party effect in the interwar Core-14 and the extended interwar Western European samples. The negative PM party effect disappears in all of these models. The PM party effect in the extended postwar Western European sample is statistically insignificant and ceases to be negative across all model specifications. PM party effects in both interwar samples are consistently positive and statistically significant.

Robustness tests

Next, we subject our results to different robustness tests. First, portfolio share data is compositional data (Aitchison, 1986). Put differently, observations within one formation opportunity are not independent from one another (Fréchette, Kagel and Morelli, 2005), and $n-1$ observations within one formation opportunity convey the same information as n observations, which yields standard errors that are too optimistic. We tackle these issues by re-estimating all models after dropping one observation from each formation opportunity (OA C.3) and by applying the isometric log-ratio transformation recently proposed by Martin and

Vanberg (2026) (OA C.4). Our insights do not fundamentally change.

Second, we replicate existing models that explain the lack of a PM party bonus through theoretical or empirical adjustments. We replicate Cox's (2021) finding of no PM party effect in the Core-14 when relaxing the unitary-party assumption (OA C.5) and Ansolabehere et al.'s (2005) positive PM party effect when using voting weights rather than seat shares (OA C.6). In both cases, we uncover significantly larger PM party effects in all other samples.

Third, Cutler et al. (2016) raise two concerns: that formal models' predictions apply only to majority governments, and that portfolio allocation and PM party selection are jointly determined. Dropping minority coalitions does not change our results (OA C.7). Jointly estimating the likelihood of becoming the PM party and portfolio shares following Cutler et al.'s (2016) approach produces a positive PM party effect even in the Core-14 sample, with larger effects in the Postwar Global Sample (OA C.8).

Finally, we probe heterogeneous effects by distinguishing between parliamentary and semi-presidential democracies but find no meaningful differences between them (OA C.9).⁸ Moreover, when we disaggregate by world region using Bayesian models with a positive prior derived from Baron and Ferejohn (1989), we find positive PM party effects with credible intervals excluding 0 for all regions except Western Europe (OA C.10). Even imposing a negative prior derived from previous empirical studies produces positive PM party effects in the postwar global and interwar European samples (OA C.11).

Discussion

Overall, our central finding is that the PM party disadvantage documented in the canonical post-war Western European democracies, the empirical pattern that has motivated a generation of theoretical innovation, does not generalize. In every other sample we examine, PM parties receive a larger share of portfolios than their seat contributions would predict. The magnitude of the advantage varies but the direction is consistently positive and nearly always statistically significant. The implication is that the 'portfolio allocation paradox' appears to be largely a feature of a particular set of cases rather than a general empirical regularity. Scholars should not treat the Core-14 pattern as the empirical benchmark against which theories of portfolio allocation

⁸Future work should more carefully account for the head of state's discretion over the choice of the PM party and other aspects of government formation (Akirav and Cox, 2018; Bucur, 2020).

are developed and tested.

What might explain postwar Western Europe's distinctive pattern? Bargaining models predict that the proposer will be advantaged when it holds leverage over coalition partners; several features of the Core-14 countries may weaken this leverage. The Core-14's highly institutionalized legislatures and programmatic parties make coalition partners valuable because they can credibly commit to sustained legislative support and are essential for policy implementation, allowing them to demand a more generous share of portfolios than would otherwise be the case (Ariotti and Golder, 2018). Moreover, because these parties seek policy influence specifically through ministerial control, PM parties cannot easily substitute non-portfolio resources, such as patronage appointments or positions in state enterprises, for cabinet seats. Where parties are less institutionalized and more particularistic, PM parties may retain more portfolios by compensating partners with such side payments. That the same Core-14 countries exhibit a PM party advantage in the interwar period is consistent with these speculations, to the extent that the institutional features that strengthen coalition partners' bargaining positions developed or deepened over the postwar era.

Whether these or other contextual factors account for the Core-14's distinctive pattern is an important question for future research. More broadly, our findings illustrate a danger that extends beyond portfolio allocation: when the cases that generate an empirical puzzle are also used to evaluate proposed solutions, we risk mistaking a context-specific pattern for a universal regularity. Other findings in the government formation literature derived primarily from postwar Western Europe may warrant similar scrutiny.

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A Data

A.1 The Core-14 or Postwar Europe sample, 1946-2018

The standard studies of portfolio allocation in Western Europe analyze fourteen countries. Some studies have one or two fewer countries, some one or two more, and some cover longer time periods than others. But they largely cover the same core countries. We use data from these same fourteen countries, from the European part of our global sample (see below), to match the existing datasets.

Table A1: Cases included in the postwar Europe core 14 sample.

Country	Cabinet parties	Coalition governments	First year	Last year
Austria	47	23	1945	2017
Belgium	140	36	1946	2018
Denmark	63	24	1950	2016
Finland	167	43	1946	2017
France	60	24	1969	2017
Germany	57	26	1949	2018
Iceland	75	31	1944	2017
Ireland	40	17	1948	2017
Italy	142	37	1948	2016
Luxembourg	46	21	1945	2018
Netherlands	89	29	1946	2017
Norway	43	14	1963	2018
Portugal	22	9	1978	2011
Sweden	28	10	1951	2014
Total	1019	344		

A.2 The Postwar Global Sample: Africa (1994-2017), the Americas (1980-2009), Asia & Oceania (1945-2018), and Europe (1945-2018).

We begin by considering all democracies in the postwar period, including only country-years where a country scored at least a 6 on the -10 to +10 scale provided by Polity IV ([Marshall, Gurr and Jaggers, 2019](#)). In a few cases where the population size was below the minimum level of inclusion in the Polity dataset, we considered a country to be democratic if it was coded as “Free” by [Freedom House \(2022\)](#). We exclude democracies that don’t have a vote of no confidence procedure, which means dropping presidential democracies and keeping the parliamentary and semi-presidential ones ([Clark, Golder and Golder, 2024](#)). For each

of our democracies we 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). We keep the coalition governments and drop single-party ones. For each party in each coalition government, we record the number of ministerial portfolios received as well as the number of legislative seats they control. We use these numbers to calculate each party's share of the total number of partisan portfolios as well as their share of the total number of legislative seats controlled by the government. We drop any coalition governments for which we cannot determine the exact number of portfolios allocated to the parties that comprise the government. We include whether each party holds the portfolio of the prime minister (what would have been labeled the formateur party in prior studies). We drop governments with nonpartisan prime ministers.

We code the region of each country in this dataset based on the coding from the United Nations Statistics Division (Africa, Americas, Asia, Europe, Oceania), grouping Asia and Oceania together.⁹

Africa

We extended the 1990-2014 data on African coalition governments from Ariotti and Golder (2018) through 2018. To do so, we relied on a variety of media and government sources. We have complete information on partisan portfolio allocation in governments in 6 parliamentary or semi-presidential democracies from Africa in our global sample (see Table A2). For legislative seats totals held by nongovernmental parties, to calculate bargaining weights, we consulted sources such as IPU Parline and the African Elections Datadase.

Americas

We gathered original data on all coalition governments in parliamentary and semi-presidential democracies in North and South America from 1945-2018. This region is dominated by presidential regimes, and many of the parliamentary regimes experience only single-party governments. For Peru, a semi-presidential regime, we relied on data from the Dataverse file associated with Vera and Carreras (2018). For other non-presidential democracies with coalition governments, we used a variety of media and governmental sources

⁹Note that Taiwan is not a member state of the United Nations so we consider its geographic location and code it as belonging to the Asian-Pacific region.

as well as resources such as *The Europa World Year Book* and the IPU Parline website. There are 6 non-presidential democratic countries from the Americas in the global sample (see Table A2).

Asia-Pacific

We use the Asia-Pacific dataset constructed by Jang (2024) which includes all coalition governments under democratic regimes in the Asia-Pacific region from 1945 to 2018. This dataset was collected from a wide range of sources, including official government websites, news articles, *the Political Handbook of the World*, the *Inter-Parliamentary Union*, case studies, etc. We exclude all presidential democracies. Through this process, 27 democratic cases in the Asia-Pacific region were included in the sample (see Table A2).

Europe

We used data from the Comparative Parliamentary Democracy Archive (Strøm, Müller and Bergman, 2008) on governments in 17 non-presidential Western European democracies from 1945 to 1998. The countries with included in the CPDA were Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom (though neither Spain nor the UK had any coalition governments during that time period). We used data from Conrad and Golder (2010) on governments in eleven Eastern European democracies from 1990 to 2008. The countries included in their dataset were Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. We updated the information on governments in both sets of countries through 2018. We also gathered data on coalition governments for all other parliamentary or semi-presidential democracies in Western and Eastern Europe for any democratic years from 1946 through 2018. To do this, we examined media and government sources, along with case studies and volumes about national elections. A particularly useful resource was the annual country year-books published by the *European Journal of Political Research*. For the number of portfolios allocated to the government parties, we used the *Who Governs Europe* database (Casal Bértoa and Enyedi, 2022).

The countries in the Core-14 or Postwar Europe sample were removed from this dataset for separate empirical analyses. Without those countries, there are 57 democratic countries remaining in the global

sample (see Table A2). Note that the studies that use the Core-14 countries exclude all governments from the French Fourth Republic (1946-1957), so “France” in the Core-14 sample is the French Fifth Republic (beginning in 1958) only whereas “France” in the global sample is the French Fourth Republic.

Table A2: Cases included in the postwar global sample.

Country	Cabinet parties	Coalition governments	First year	Last year
Albania	38	10	2002	2013
Armenia	3	1	2018	2018
Australia	53	25	1949	2018
Bangladesh	5	2	1996	2001
Bulgaria	17	7	1995	2017
Burkina Faso	3	1	2016	2016
Croatia	27	8	2000	2017
Czech Republic	26	9	1993	2018
Dominica	4	2	2000	2000
Estonia	34	13	1992	2016
Fiji	7	2	1999	2001
France	97	21	1947	1957
Georgia	12	4	2012	2015
Greece	11	5	1989	2015
Grenada	2	1	1990	1990
Guinea-Bissau	3	1	2007	2007
Guyana	2	1	2015	2015
Hungary	21	9	1990	2014
India	65	11	1977	2014
Iraq	11	1	2014	2014
Israel	255	63	1949	2018
Japan	60	22	1983	2017
Kyrgyzstan	13	4	2010	2014
Latvia	71	21	1993	2016
Lebanon	21	5	2005	2018
Lesotho	14	3	2012	2017
Liechtenstein	4	2	1993	1993
Lithuania	32	11	1996	2016
Macedonia	28	12	1994	2017
Malaysia	28	6	1957	2018
Mauritius	22	6	1990	2014
Moldova	22	8	1999	2016
Mongolia	33	12	1996	2014
Montenegro	9	3	2009	2016

Myanmar	7	2	1956	1957
Nepal	57	11	2006	2018
New Zealand	14	7	1996	2017
Pakistan	35	9	1990	2018
Peru	18	9	1980	2009
Poland	47	16	1991	2014
Romania	45	16	1996	2018
San Marino	17	5	2006	2016
Sao Tome and Principe	7	3	1996	2002
Serbia	9	3	2007	2012
Slovakia	30	10	1993	2018
Slovenia	52	15	1993	2018
Solomon Islands	44	10	1978	2017
South Africa	10	4	1994	2004
Sri Lanka	29	10	1952	2015
St. Kitts and Nevis	3	1	2015	2015
Taiwan	4	2	2000	2000
Thailand	28	6	1992	2011
Timor-Leste	14	5	2007	2018
Trinidad and Tobago	2	1	1995	1995
Turkey	35	14	1961	1999
Ukraine	11	4	2005	2010
United Kingdom	2	1	2010	2010
Total	1573	476		

A.3 The Interwar Europe Sample, 1919-1939

We collected cabinet data from Europe in the interwar period as part of a third-party funded research project on coalition governments in European democracies between January 1st, 1919 and August 31st, 1939. The sample includes all European parliamentary democracies according to the minimal definition provided by the Boix, Miller, and Rosato (BMR) political regimes dataset (Boix, Miller and Rosato, 2013). The BMR data classifies a state as democratic as of December 31st of given year if (1) its executive is directly or indirectly elected and responsible to either voters or a legislature, (2) free and fair elections determine the composition of the legislature, and (3) a majority of adult men has the right to vote (Boix, Miller and Rosato, 2013: 1530). Overall, the interwar Europe sample consists of 20 parliamentary and two semi-presidential

democracies.¹⁰ Half of all democracies survived the entire period whereas 11 democracies exited the sample before September 1939, with Italy being the first case of breakdown in March 1922 and Spain the last in April 1939. Table A3 lists all countries and years during Europe’s interwar period.

Table A3: Cases included in the interwar Europe sample.

Country	Cabinet parties	Coalition governments	First year	Last year
Austria	34	14	1921	1932
Belgium	41	17	1919	1939
Czechoslovakia	131	20	1920	1938
Denmark	8	4	1929	1939
Estonia	62	17	1921	1933
Finland	43	15	1919	1939
France	124	36	1919	1939
Germany	99	26	1919	1933
Greece	47	17	1926	1935
Iceland	7	3	1932	1939
Italy	37	10	1919	1922
Latvia	105	23	1923	1933
Luxembourg	19	9	1920	1938
Netherlands	28	8	1922	1939
Norway	10	5	1920	1927
Poland	19	5	1923	1926
Portugal	33	13	1919	1925
San Marino	4	2	1920	1921
Spain	69	17	1931	1936
Sweden	4	2	1926	1936
United Kingdom	22	8	1919	1937
Yugoslavia	36	13	1921	1928
Total	982	284		

For each democracy in the interwar Europe sample, we drew on different sources to collect party seat shares, cabinet representation, and the identity of the PM party. The main source for 11 states is the widely-used *ParlGov* dataset (Döring and Manow, 2016), which provides election results and the composition of cabinets. For 11 predominantly Eastern and Southern European democracies, we collected election results and cabinet membership from a wide variety of sources. With respect to election data, we drew on a wealth

¹⁰Finland and Germany had semi-presidential constitutions. Ireland is not part of the sample, because there were only single party majority governments during the interwar period. We could not find portfolio information for Lithuania. Finally, in keeping with contemporary practise we consider Switzerland a presidential democracy because the executive Federal Council, a collective presidency of seven ministers, is not subject to a vote of no confidence, even if it is elected by parliament.

of non-digitized election almanacs (McHale and Skowronski, 1983; Caramani, 2000; Nohlen and Stöver, 2010), official records from election commissions or statistical offices, historical case studies (The Information Department of the Royal Institute of International Affairs, 1970 (1938), or period-specific edited volumes (Berg-Schlosser and Mitchell, 2000). We cross-referenced these sources and included those election results with the highest agreement across sources. When a majority of sources indicated that the electoral results were different from those reported in *ParlGov* we changed the reported results.

Regarding cabinet-level data, we derived information predominantly from the *Who Governs Europe* database (Casal Bértoa and Enyedi, 2022) for eight of the 11 cases not included in *ParlGov*. We again validated these classifications drawing on country-specific sources where possible. For the three countries missing from *Who Governs Europe*, Iceland, Italy, and Yugoslavia we relied exclusively on case-specific sources. For each country, a detailed list of references and coding notes is available on request.

A.4 The Indian States sample, 1977-2019

We collected cabinet data for 26 of the 34 Indian states and union territories in the period 1977 to 2019.¹¹ Indian states are sub-national parliamentary democracies with a first-past-the-post electoral system. The executive is headed by a Chief Minister who heads a cabinet that is responsible to the lower house of parliament, the *Vidhan Sabha*. There is a long tradition of studying coalition behavior in Indian states (Brass, 1968; Bueno de Mesquita, 1975). In particular after 1989, Indian states featured a large number of coalition governments (Ziegfeld, 2012), and corresponding variation in portfolio shares. Unlike all other samples, the Indian state sample only includes cabinets formed after elections. We could not identify systematic information on cabinet reshuffles within electoral periods. Table A4 lists all states and years included in our data.

We computed party seat shares from data on candidate-district-level election results provided by the Trivedi Centre for Political Data's (TCPD) *Lok Dabha* database. We subset this sample to all candidates that won their respective districts and became members of parliament (MPs), i.e., their respective *Vidhan Sabha*. We then summed the number of seats won by each party and divided it by the total number of parliamentary seats. Data on cabinet appointments stem from two sources: First, Bhavnani (2018) provides

¹¹These states include more than 97% of India's population (Bhavnani, 2018: 76).

Table A4: Cases included in the Indian federal states sample.

State	Cabinet parties	Coalition governments	First year	Last year
Andhra Pradesh	8	4	1978	2014
Arunachal Pradesh	2	1	1980	1980
Assam	9	4	1978	2016
Bihar	10	4	2000	2015
Goa	14	5	1999	2017
Haryana	8	4	1982	2019
Himachal Pradesh	4	2	1990	1998
Jammu & Kashmir	16	6	1977	2014
Jharkhand	15	4	2005	2019
Karnataka	11	4	1983	2018
Kerala	58	10	1977	2016
Madhya Pradesh	2	1	1998	1998
Maharashtra	18	6	1978	2019
Manipur	33	8	1972	2017
Meghalaya	26	7	1978	2018
Mizoram	6	3	1987	2003
Nagaland	11	3	2003	2018
Odisha	4	2	2000	2004
Puducherry	10	4	1974	2001
Punjab	8	4	1977	2012
Rajasthan	4	2	1990	2018
Telangana	5	2	2014	2018
Tripura	22	8	1977	2018
Uttar Pradesh	7	3	1993	2017
Uttarakhand	5	2	2007	2012
West Bengal	31	8	1977	2011
Total	347	111		

data on cabinet positions that were in office one year after the election in 17 states in the period 1977 to 2007. We merged these information with the TCPD candidate-level data. Second, we collected original data from *The Journal of Parliamentary Information* (JPI), published quarterly by the Lok Sabha (Indian National Parliament) Secretariat. The JPI publishes the names of newly inaugurated cabinet ministers after state elections. We matched the names with the candidates in the TCPD election data. Where multiple candidates with the same name were elected to parliament, we drew on party affiliation or additional sources, such as Indian newspapers like the *The Hindu* or the *Times of India*, to determine which MP held the cabinet position.

Having merged MP data with cabinet appointments, we calculated party-level seat and portfolio shares

for each election by summing up the number of seats/cabinet positions by party and dividing by the total number of parliamentary seats/cabinet positions. Next, we dropped all single-party majority cabinets to arrive at the sample of 111 multi-party cabinets with 347 parties. Finally, we identified the PM party party, i.e., the party of the Chief Minister, through information from the JPI.

B Descriptives

Table A5: Overview of data by regions/samples.

Sample	Parties	Cabinets	States
Africa	59	18	6
Caribbean & Lat America	31	15	6
Asia	833	234	23
Eastern Europe	519	175	17
Western Europe	1150	378	19
Interwar Europe	982	284	22
Indian States	347	111	26

Figure A1 plots the distributions of key institutional characteristics across the four regional samples using elections at the unit of analysis. Starting in the top-left, we find that the core-14 sample (red) has a larger number of semi-presidential *regimes* than other regions. At the other end of the distribution, the Indian states sample (light blue) consists entirely of parliamentary democracies. With respect to the *parliamentary size* (top right), the core-14 region does not differ much from interwar parliaments (purple) although the variation for the core-14 sample is smaller. Indian state legislatures are the smallest.

Next, we compare the distribution of *electoral rules* (middle row, left). The core-14 sample, features the fewest elections with majoritarian rules but does not differ much from from the interwar European parliaments in the number of elections with PR rules. On mixed electoral rules, a combination of majoritarian and PR rules at different electoral tiers or in different constituencies, the core-14 elections fall in-between the global postwar (green) and the interwar Europe sample. In India, all Members of the Legislative Assemblies (MLAs) are elected under majoritarian first-past-the-post rules. The *effective number of parliamentary parties* (ENPP) reflects the distribution of electoral rules (middle row, right). ENPP is smallest under exclusively majoritarian rules in India, and rises as the number of share of majoritarian elections decreases. The core-14 sample and the interwar Europe sample hardly differ, although the latter features a slightly larger number of majoritarian elections.

Next, we compare the *frequency of minority and majority coalitions* (bottom left). Minority coalitions are disproportionally more common in interwar Europe than anywhere else, and least common in Indian states. Finally, we turn to *average district magnitude* (bottom right). Once again, the core-14 sample barely

Table A6: Summary statistics of key variables for each sample.

Statistic	N	Mean	St. Dev.	Min	Max
Core-14					
Portfolio Share	1,019	0.338	0.208	0.031	0.944
Seat Share	1,019	0.338	0.246	0.014	0.975
PM Party Status	1,019	0.338	0.473	0	1
Equal Share	1,019	0.338	0.118	0.143	0.500
Voting Weight (Banzhaf)	978	0.335	0.251	0.000	1.000
Postwar Other					
Portfolio Share	1,573	0.303	0.261	0.015	0.958
Seat Share	1,573	0.303	0.269	0.003	0.990
PM Party Status	1,573	0.303	0.460	0	1
Equal Share	1,573	0.303	0.125	0.091	0.500
Voting Weight (Banzhaf)	1,542	0.301	0.294	0.000	1.000
Interwar Europe					
Portfolio Share	982	0.289	0.205	0.053	0.947
Seat Share	982	0.289	0.230	0.009	0.973
PM Party Status	982	0.282	0.450	0	1
Equal Share	982	0.289	0.118	0.111	0.500
Voting Weight (Banzhaf)	982	0.284	0.249	0.000	1.000
Indian States					
Portfolio Share	347	0.320	0.290	0.022	0.971
Seat Share	347	0.215	0.206	0.003	0.885
PM Party Status	347	0.320	0.467	0	1
Equal Share	347	0.320	0.130	0.125	0.500
Voting Weight (Banzhaf)	347	0.325	0.350	0.000	1.000

differs from the interwar Europe sample on average. In the rest of the world and in Indian states, the size of the average district is significantly lower than in Europe. Across all comparisons, we find no clear pattern of exceptionalism for the core-14 sample.

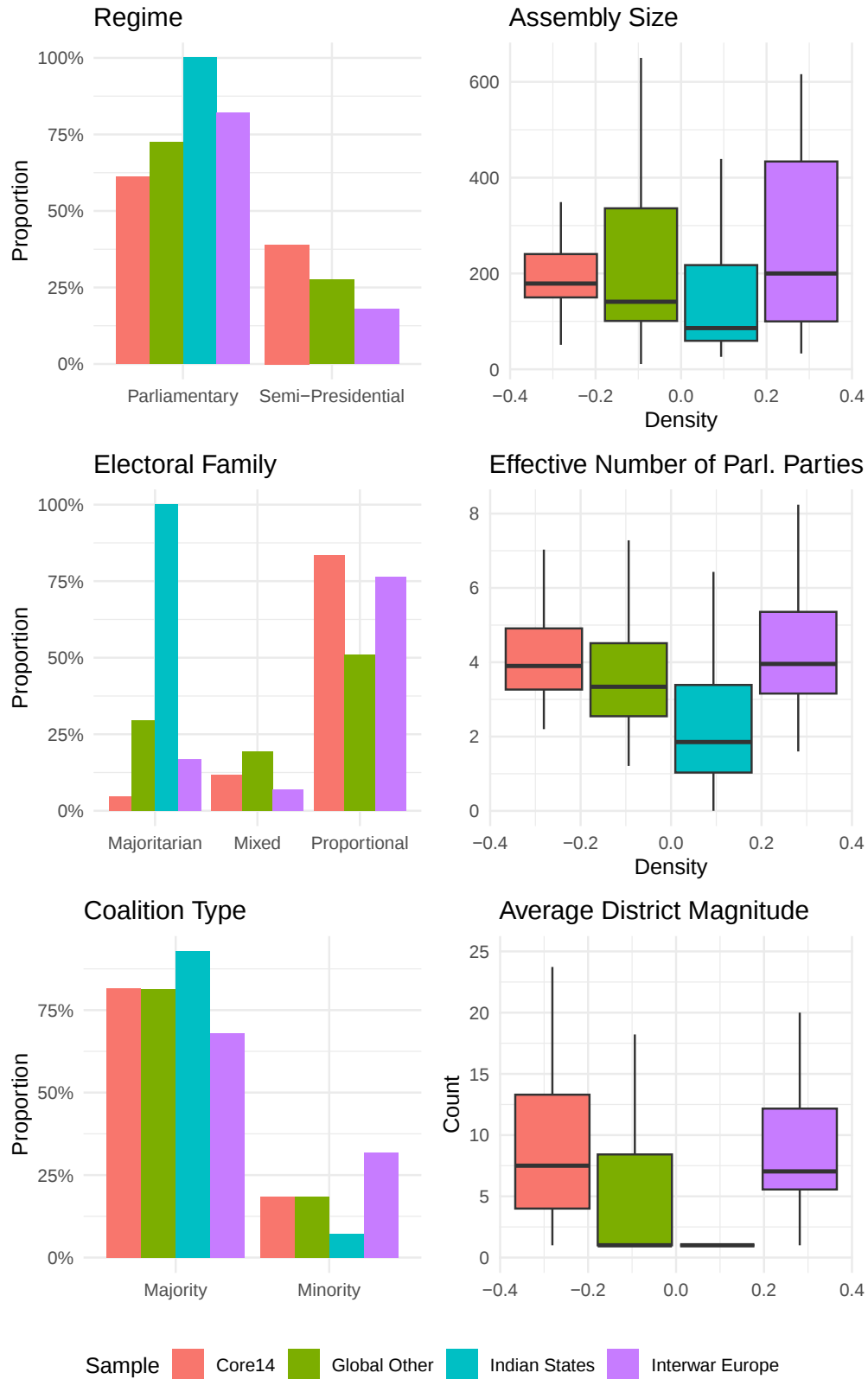


Figure A1: Comparison of four samples across different variables.

C Analysis

C.1 All observations

Table A7: Linear regressions on partisan portfolio share in core-14 European and global states, 1946-2020

	Postwar Core-14 Europe			Postwar Global		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.83*** (0.01)	0.75*** (0.03)	0.80*** (0.03)	0.84*** (0.01)	0.80*** (0.03)	0.82*** (0.03)
PM Party	-0.02** (0.01)	-0.004 (0.01)	-0.01 (0.01)	0.06*** (0.01)	0.07*** (0.02)	0.06** (0.02)
Constant	0.06*** (0.004)			0.03*** (0.003)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	1019	1019	1019	1573	1573	1573

***p < .001; **p < .01; *p < .05

Table A8: Linear regressions on partisan portfolio share in Europe (1919-1939) and Indian states (1977-2018)

	Interwar Europe			Indian States		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.57*** (0.02)	0.46*** (0.07)	0.52*** (0.06)	0.96*** (0.05)	1.10*** (0.11)	0.98*** (0.10)
PM Party	0.13*** (0.01)	0.13*** (0.03)	0.13*** (0.03)	0.18*** (0.02)	0.12** (0.04)	0.17*** (0.04)
Constant	0.09*** (0.01)			0.06*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	982	982	982	347	347	347

***p < .001; **p < .01; *p < .05

C.2 Core-14 vs Western Europe - Postwar & Interwar

Table A9: Linear regressions on partisan portfolio share in core-14 & postwar Western Europe, 1946-2020

	Postwar Core-14			Postwar Western Europe		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.83*** (0.01)	0.80*** (0.03)	0.75*** (0.03)	0.81*** (0.01)	0.78*** (0.03)	0.73*** (0.03)
PM Party	-0.02** (0.01)	-0.01 (0.01)	-0.004 (0.01)	0.001 (0.01)	0.01 (0.02)	0.01 (0.02)
Constant	0.06*** (0.004)			0.06*** (0.003)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	1019	1019	1019	1150	1150	1150

***p < .001; **p < .01; *p < .05

Table A10: Linear regressions on partisan portfolio share in interwar core-14 & Western Europe, 1946-2020

	Interwar Core-14			Interwar Western Europe		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.47*** (0.03)	0.43*** (0.06)	0.35*** (0.08)	0.51*** (0.03)	0.48*** (0.06)	0.41*** (0.07)
PM Party	0.15*** (0.01)	0.15** (0.04)	0.15** (0.04)	0.14*** (0.01)	0.14** (0.04)	0.14** (0.04)
Constant	0.13*** (0.01)			0.11*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	487	487	487	582	582	582

***p < .001; **p < .01; *p < .05

C.3 N-1 random observations

Table A11: Linear regressions on partisan portfolio share in core-14 European and global states, 1946-2020. Drop one random party per cabinet.

	Postwar Core-14 Europe			Postwar Global		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.83*** (0.02)	0.75*** (0.03)	0.80*** (0.03)	0.84*** (0.01)	0.79*** (0.03)	0.83*** (0.03)
PM Party	-0.02* (0.01)	-0.01 (0.01)	-0.02 (0.01)	0.06*** (0.01)	0.07** (0.02)	0.06** (0.02)
Constant	0.06*** (0.004)			0.03*** (0.003)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	675	675	675	1097	1097	1097

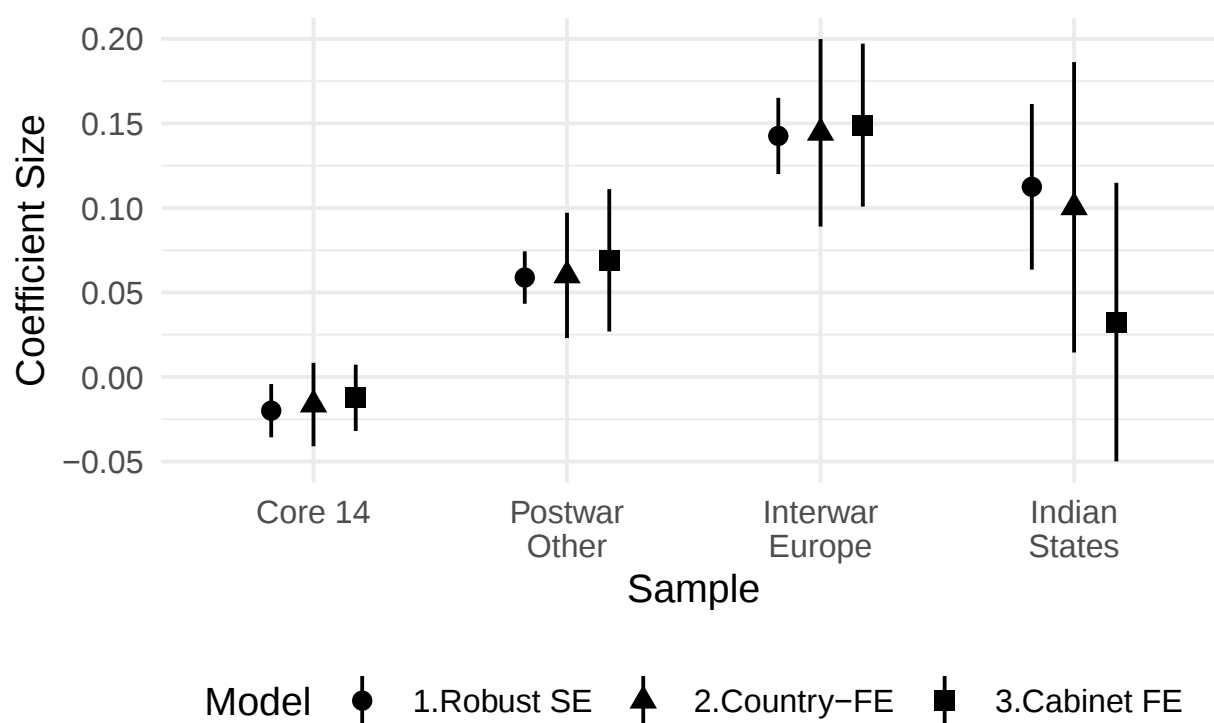
***p < .001; **p < .01; *p < .05

Table A12: Linear regressions on partisan portfolio share in Europe (1919-1939) and Indian states (1977-2018). Drop one random party per cabinet.

	Interwar Europe			Indian States		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.55*** (0.02)	0.38*** (0.07)	0.50*** (0.06)	1.06*** (0.06)	1.16*** (0.13)	1.05*** (0.11)
PM Party	0.14*** (0.01)	0.15*** (0.02)	0.14*** (0.03)	0.11*** (0.02)	0.03 (0.04)	0.10* (0.04)
Constant	0.08*** (0.01)			0.05*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	698	698	698	236	236	236

***p < .001; **p < .01; *p < .05

Figure A2: Estimated PM party bonus in four different samples with randomly sampled $n-1$ parties at each formation opportunity. Underlying regression results reported in Tables [A11](#) and [A12](#).



C.4 N-1 random isometric log-ratio transformed cabinet observations

In a recent paper, [Martin and Vanberg \(2026\)](#) introduce a novel method, isometric log ratio (ILR) transformations, to study compositional data. In short, the method results in $n-1$ orthogonal ILRs, each of which contrasts seat shares (portfolio shares) of one party with the geometric mean of the other parties. In a three party cabinet with parties A , B , and C , and seat shares a , b , c , one possible set of ILRs would be the following: $ILR_1 = \ln \frac{a}{\sqrt{b*c}}$, $ILR_2 = \ln \frac{b}{c}$.¹² The ILRs of portfolio shares are constructed equivalently.

We adapt Martin & Vanberg's suggestion to the problem of estimating the existence of any PM bonus by always using the PM party as the first contrast. The $ILR_{PMParty}$ compares the PM Party's seat and portfolio shares to the geometric mean of all other parties in the cabinet. We then estimate the following regression model for each sample:

$$ILR_{PMPartyPortfolioShare} = \alpha + \beta * ILR_{PMPartySeatShare} + \epsilon \quad (1)$$

Since all other ILRs are orthogonal to the $ILR_{PMParty}$, we drop these observations. Our unit of analysis is now the cabinet. β estimates the effect of the PM party's seat share relative to its coalition partners. α estimates the effect of being the PM party net its relative size. As we only retain one observation for each cabinet, cabinet fixed effects are obsolete. We could still estimate country fixed effects, as there are multiple cabinets within a country, but they make it difficult to interpret the estimated results for two reasons. In our setup, each country fixed effect now estimates a country-specific α , while the intercept would be dropped. We could drop one of the country-fixed effects instead to estimate α . However, this solution brings us to our second problem: high multicollinearity between the fixed effects and α that make it difficult to for the individual models to identify the respective point estimates. For these reasons, we proceed with a simple model described in Equation 1.

Figure A3 displays the estimates for each of our four samples using. The results effectively mirror our main results, although the negative PM party effect for the Core-14 countries is now positive and almost statistically significant.

¹²These example ILRs form one of several possible sequential binary partitions. The ordering is arbitrary and non-consequential for subsequent analyses.

Table A13: Linear regressions on partisan portfolio share in core-14 European and global states, 1946-2020. Isometric log-ratio transformation on PM party versus others contrast.

	Postwar Core-14 Europe	Postwar Global
	Model 1	Model 2
Seat share	0.66*** (0.02)	0.74*** (0.02)
PM Party	0.05 (0.03)	0.26*** (0.04)
N	344	476

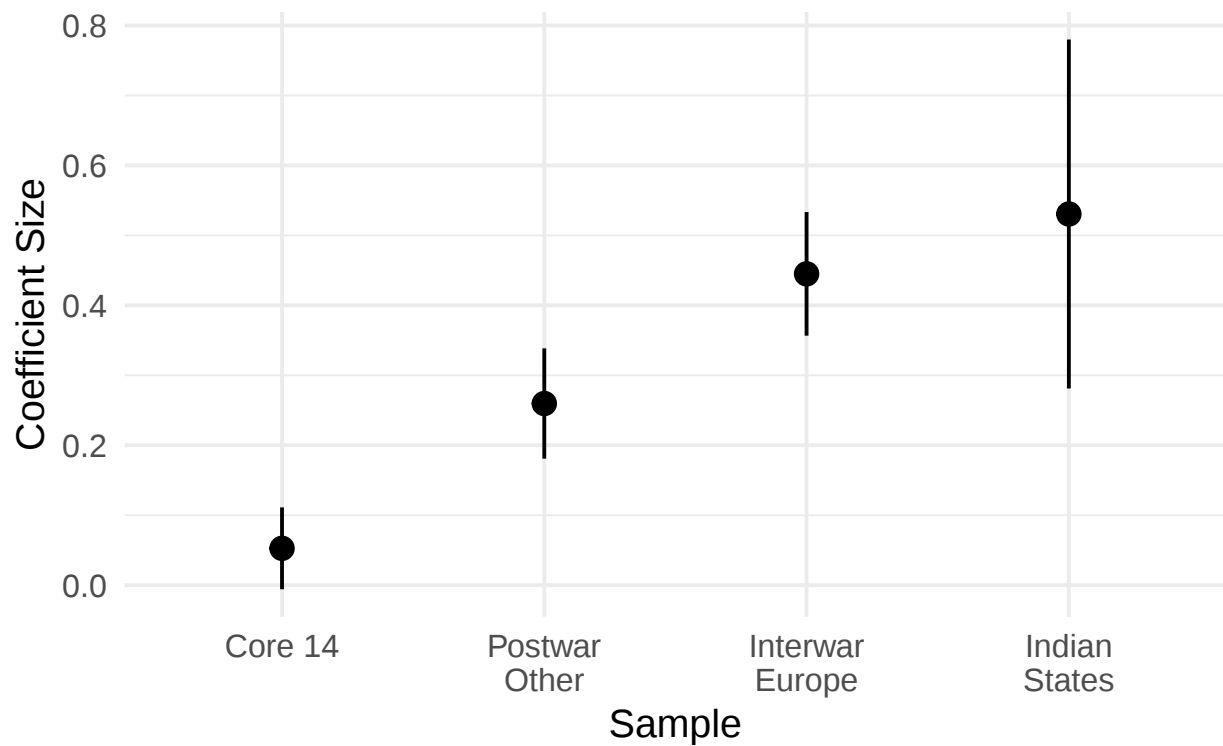
***p < .001; **p < .01; *p < .05

Table A14: Linear regressions on partisan portfolio share in Europe (1919-1939) and Indian states (1977-2018). Isometric log-ratio transformation on PM party versus others contrast.

	Interwar Europe	Indian States
	Model 1	Model 2
Seat share	0.42*** (0.03)	0.61*** (0.06)
PM Party	0.44*** (0.05)	0.53*** (0.13)
N	277	111

***p < .001; **p < .01; *p < .05

Figure A3: Estimated PM party bonus in four different samples with the isometric log-ratio transformation of the prime ministerial party versus other parties. Underlying regression results reported in Tables [A13](#) and [A14](#).



C.5 N-1 random observations: Cox (2021) model

Cox (2021) develops a new formal model that relaxes the unitary actor assumption of parties, which allows him to explain the “portfolio allocation paradox” (ibid., 927). The central insight of Cox’ (2021) model is that the share of portfolios a party receives should be a weighted average of its seat share and the so-called `equal share`, or $\frac{1}{n}$, where n is the number of cabinet parties. Adding the `equal share` variable to any regression model of government formation makes it almost equivalent to estimating a class-fixed effects model, where classes describe cabinets with the same number of parties. Our specification of cabinet-fixed effects absorbs the `equal share` variable, which is why we do not compute it in our replication. We add the PM party variable to Cox’ (2021: p. 922, Table 1) Model 2, and re-estimate the linear model with robust standard errors (circles) and the country-fixed effects model (triangle). Figure A4 displays the results. Within the Core-14 states, we cannot reject the null of no PM party advantage. However, all other samples lead us to estimate a sizable PM party advantage significant at least at the 10% level (India, state-FE specification).

Table A15: Linear regressions on partisan portfolio share with Cox’ (2021) model specification in core-14 European and global states, 1946-2020. Drop one random party per cabinet.

	Postwar Core-14 Europe			Postwar Global
	Model 1	Model 2	Model 3	Model 4
Seat share	0.75*** (0.02)	0.75*** (0.03)	0.80*** (0.01)	0.80*** (0.03)
PM Party	−0.01 (0.01)	−0.01 (0.01)	0.07*** (0.01)	0.07*** (0.02)
Equal Share	0.29*** (0.02)	0.28*** (0.02)	0.16*** (0.02)	0.18*** (0.03)
Constant	−0.01 (0.01)		−0.01 (0.01)	
Country-FEs	No	Yes	No	No
Cabinet-FEs	No	No	Yes	No
N	675	675	1097	1097

***p < .001; **p < .01; *p < .05

Table A16: Linear regressions on partisan portfolio share with Cox' (2021) model specification in Europe (1919-1939) and Indian states (1977-2018). Drop one random party per cabinet.

	Interwar Europe			Indian States
	Model 1	Model 2	Model 3	Model 4
Seat share	0.43*** (0.02)	0.43*** (0.07)	0.99*** (0.06)	1.00*** (0.10)
PM Party	0.14*** (0.01)	0.14*** (0.02)	0.13*** (0.03)	0.11* (0.04)
Equal Share	0.48*** (0.04)	0.53*** (0.09)	0.18** (0.06)	0.27* (0.13)
Constant	-0.01 (0.01)		0.01 (0.02)	
Country-FEs	No	Yes	No	No
Cabinet-FEs	No	No	Yes	No
N	698	698	236	236

***p < .001; **p < .01; *p < .05

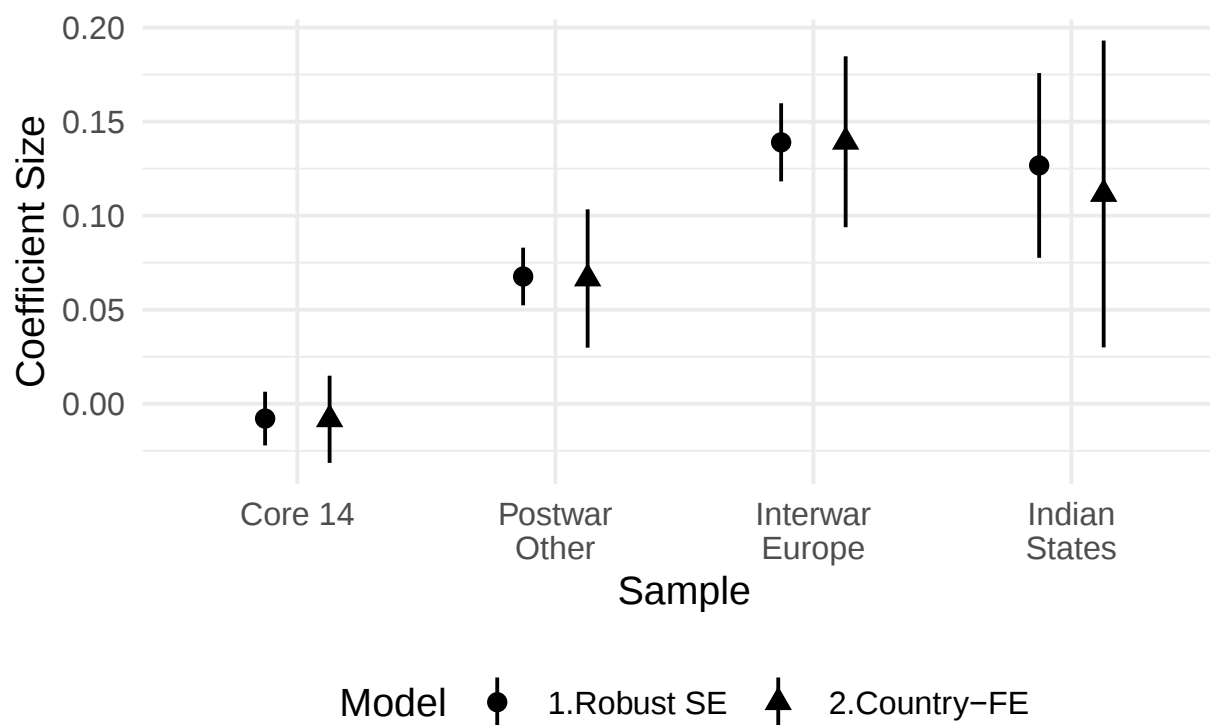


Figure A4: Cox (2021) specification (Tables A15-A16)

C.6 N-1 random observations: Banzhaf weights

[Ansolabehere et al. \(2005\)](#) argue that the logic of theoretical models evolves around parties' voting weights rather than seat shares, and estimate a corresponding empirical model that uncovers a PM party advantage in the Core-14 sample.¹³ We re-estimate our models using the voting weights calculated through the Banzhaf power index ([Penrose, 1946](#)).¹⁴ We replicate Ansolabehere et al.'s findings for the Core-14 countries but find significantly larger PM party effects for the three other samples (Figure A5). Note that we do not have information on non-cabinet party seat shares in many formation opportunities in Africa, Asia & Oceania, and Latin America. It is thus impossible to compute voting weights for these formation opportunities, and the sample size for our postwar global sample is correspondingly smaller.

Table A17: Linear regressions on partisan portfolio share in core-14 European and global states, 1946-2020, using coalition weights (Banzhaf values) instead of seat shares. Drop one random party per cabinet.

	Postwar Core-14 Europe			Postwar Global		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Banzhaf value	0.54*** (0.02)	0.56*** (0.03)	0.54*** (0.03)	0.50*** (0.02)	0.55*** (0.04)	0.51*** (0.05)
PM Party	0.08*** (0.01)	0.04* (0.02)	0.07* (0.03)	0.21*** (0.01)	0.14*** (0.03)	0.19*** (0.03)
Constant	0.12*** (0.01)			0.08*** (0.005)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	652	652	652	1077	1077	1077

***p < .001; **p < .01; *p < .05

¹³For a critical assessment of Ansolabehere's approach, see [Laver, de Marchi and Mutlu \(2011\)](#).

¹⁴We use the R package `powerindexR` to compute the weights.

Table A18: Linear regressions on partisan portfolio share in Europe (1919-1939) and Indian states (1977-2018) using coalition weights (Banzhaf values) instead of seat shares. Drop one random party per cabinet.

	Interwar Europe			Indian States		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Banzhaf value	0.32*** (0.02)	0.25** (0.08)	0.29*** (0.07)	0.52*** (0.04)	0.56*** (0.08)	0.49*** (0.06)
PM Party	0.20*** (0.01)	0.15*** (0.02)	0.19*** (0.02)	0.19*** (0.03)	0.09 (0.06)	0.17** (0.05)
Constant	0.13*** (0.01)			0.08*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	698	698	698	236	236	236

***p < .001; **p < .01; *p < .05

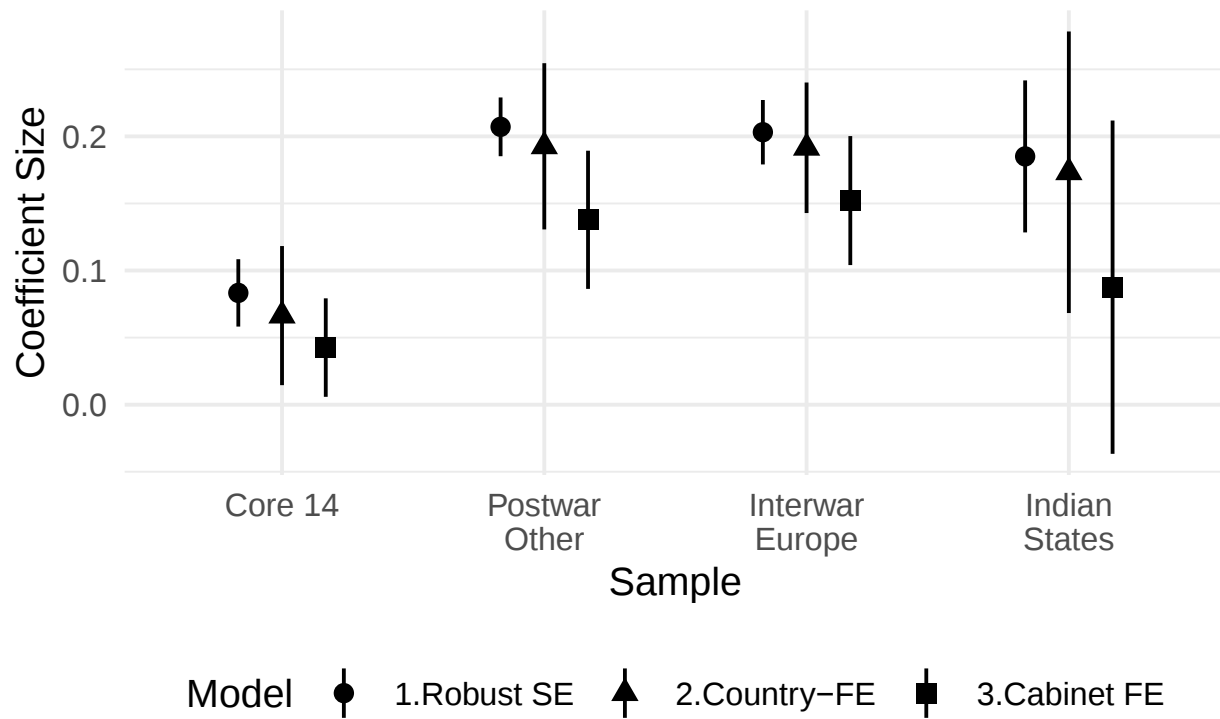


Figure A5: Voting weights (Banzhaf) (Tables A17-A18)

C.7 All observations: only majority coalitions

Table A19: Linear regressions on partisan portfolio share of majority coalitions in core-14 European and global states, 1946-2020.

	Postwar Core-14 Europe			Postwar Global		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.84*** (0.01)	0.76*** (0.04)	0.80*** (0.03)	0.84*** (0.01)	0.80*** (0.04)	0.82*** (0.03)
PM Party	-0.02*** (0.01)	-0.01 (0.01)	-0.02 (0.01)	0.06*** (0.01)	0.07** (0.02)	0.07** (0.02)
Constant	0.06*** (0.004)			0.03*** (0.003)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	795	795	795	1139	1139	1139

***p < .001; **p < .01; *p < .05

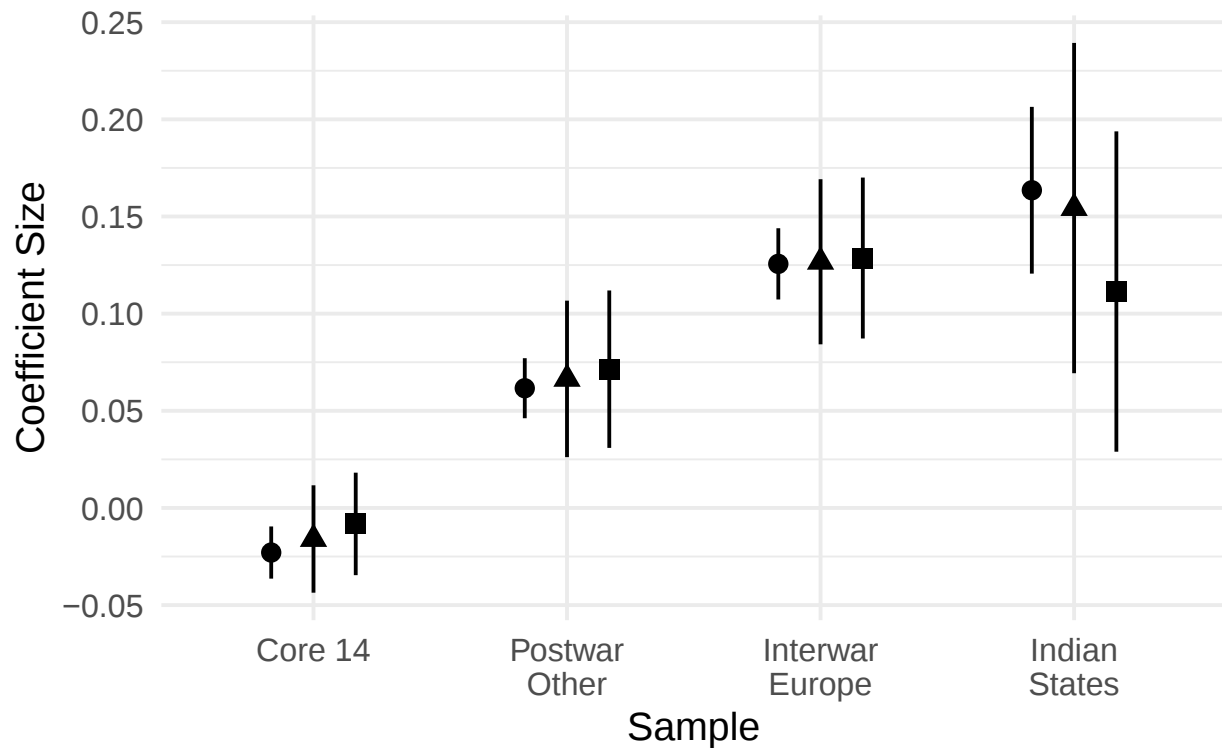
Table A20: Linear regressions on partisan portfolio share of majority coalitions in Europe (1919-1939) and Indian states (1977-2018)

	Interwar Europe			Indian States		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.58*** (0.02)	0.47*** (0.06)	0.53*** (0.05)	0.98*** (0.05)	1.11*** (0.11)	1.00*** (0.10)
PM Party	0.13*** (0.01)	0.13*** (0.02)	0.13*** (0.02)	0.16*** (0.02)	0.11* (0.04)	0.15** (0.04)
Constant	0.09*** (0.01)			0.05*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	973	973	973	325	325	325

***p < .001; **p < .01; *p < .05

In this section, we re-estimate our main models on the subset of majority cabinets. Formal models of portfolio allocation make no predictions for minority governments. Dropping minority from the empirical analysis does not lead to substantively different results for the core-14 and postwar other samples compared to our main analysis (see Figures 1a and A6). In contrast, we recover a significantly smaller estimate for

Figure A6: Estimated PM party bonus in all samples (majority governments only). Underlying regression results reported in Tables A19 and A20.



the PM party advantage in the Interwar Europe sample and a slightly larger though not statistically different bonus in the Indian states sample.

C.8 All observations: joint likelihood of becoming PM party and portfolio distribution

Table A21: Joint likelihood of PM party status and partisan portfolio share.

	Core-14	Postwar Global	Interwar Europe	Indian States
Outcome: Portfolio Share (Linear Model)				
PM Party	1.5068*** (0.1454)	1.8035*** (0.0819)	1.407*** (0.0538)	1.3341** (0.0651)
Seat Share	0.5445*** (0.0361)	0.1823*** (0.0271)	0.8841*** (0.0303)	0.4749*** (0.052)
Banzhaf Value	0.3543*** (0.0205)	0.3882*** (0.0147)	0.054 (0.0157)	0.4541*** (0.0286)
Outcome: PM Party (Probit)				
Seat Share	2.5639** (0.6897)	0.5507 (0.5353)	3.8422** (0.6149)	3.4346 (1.9176)
Banzhaf Value	3.1425*** (0.4084)	2.3480*** (0.2840)	0.5207 (0.3155)	3.5459*** (0.3329)
Intercept	-2.6853*** (0.1359)	-2.1026*** (0.0724)	-2.0517*** (0.0711)	-3.0047*** (0.0856)
log σ	-1.8973*** (0.0115)	-1.8461*** (0.0066)	-2.0160*** (0.0080)	-2.0267*** (0.0158)

***p < .001; **p < .01; *p < .05

Taking inspiration from [Cutler et al. \(2016\)](#), we jointly estimate the “ex-ante” likelihood of becoming the PM party and the “ex-post” probability of portfolio shares. We implement a probit-linear regression mixture model with a multivariate normal error distribution ([Teixeira-Pinto and Normand, 2009](#)). As [Cutler et al. \(2016\)](#), we add both seat shares and bargaining weights as predictors to both equations. Across all samples, we find a sizable and statistically significant positive effect of *predicted* PM party status on portfolio allocation (Table [A21](#)). Only the Postwar Global Sample retains its edge over the Core-14 Sample. Seat shares and voting weights positively affect both outcomes.¹⁵

However, we do not place our full confidence into these results for two reasons. First, our treatment (becoming the prime minister) is obviously not randomly assigned, and we are not aware of any exogenous instrument that would predict prime minister status but not affect portfolio allocation. In other words, the model depicted in Table [A21](#) is only identified on observables.¹⁶ Second, political scientists usually use far

¹⁵ Adding country or cabinet-fixed effects makes these models more difficult to estimate but does not change the results.

¹⁶ The same reservations apply to the results presented by [Cutler et al. \(2016\)](#).

more complex models to predict the PM party than we do here (cf. Glasgow, Golder and Golder, 2011). Future research will have to probe whether our results remain robust to such more complex approaches.

C.9 All observations: Postwar samples by regime type

Work by Bucur (2020) suggests that the prime ministerial bonus may be larger in semi-presidential systems where heads of state can in many circumstances use discretionary powers in selecting the PM party. We evaluate for this possibility in our two post-war samples. There is not enough variation in the other two samples to test the claim: the interwar Europe sample only featured three semi-presidential regimes (Finland, Germany, and Ireland after 1933); all states in India are parliamentary. In Tables A22 and A23, we estimate our main model specifications separately for cabinets in parliamentary and semi-presidential democracies. Figure A7 displays the results by region and regime type. The average estimated effects are almost identical for parliamentary and semi-presidential democracies within each sample and continue to differ in line with our main results between the samples. However, standard errors are larger for the semi-presidential category and include 0 for two out of three models for the postwar global sample. This is unsurprising given the relatively smaller share of semi-presidential regimes (about 43% in the Core-14 sample and 28% in the postwar other sample).

Table A22: Linear regressions on partisan portfolio share in core-14 European states by regime type, 1946-2020.

	Parliamentary			Semi-presidential		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.79*** (0.02)	0.76*** (0.02)	0.69*** (0.02)	0.88*** (0.02)	0.85*** (0.03)	0.82*** (0.03)
PM Party	-0.02* (0.01)	-0.01 (0.01)	0.004 (0.01)	-0.02* (0.01)	-0.02 (0.03)	-0.01 (0.03)
Constant	0.07*** (0.004)			0.05*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	608	608	608	411	411	411

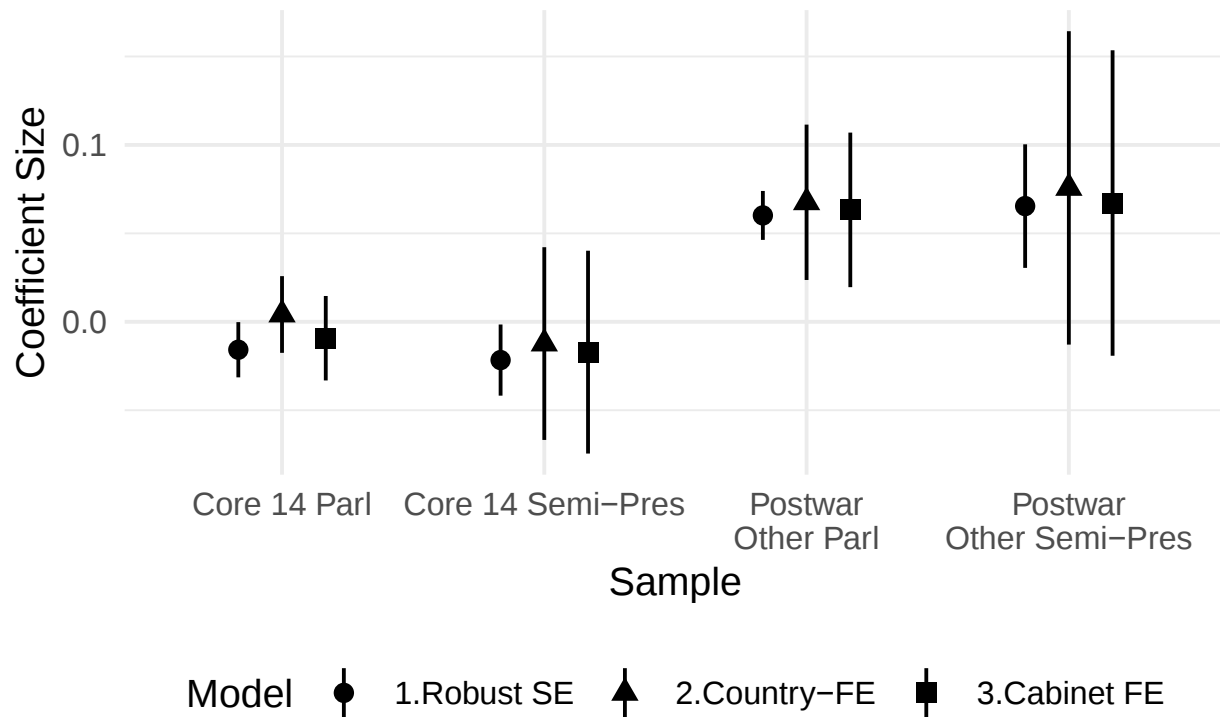
***p < .001; **p < .01; *p < .05

Table A23: Linear regressions on partisan portfolio share in postwar global states by regime type, 1946-2020.

	Parliamentary			Semi-presidential		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.85*** (0.01)	0.84*** (0.04)	0.82*** (0.04)	0.80*** (0.03)	0.79*** (0.07)	0.75*** (0.07)
PM Party	0.06*** (0.01)	0.06** (0.02)	0.07** (0.02)	0.07*** (0.02)	0.07 (0.04)	0.08 (0.05)
Constant	0.02*** (0.003)			0.05*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	1202	1202	1202	371	371	371

***p < .001; **p < .01; *p < .05

Figure A7: Estimated PM party bonus in Core-14 and postwar global samples by regime type. Underlying regression results reported in Tables A22 and A23.



C.10 All observations: Bayesian estimation w/ theoretical priors

We disaggregate the global postwar sample into several regions to probe whether any one region drives the positive PM party effect we find. Unlike in our previous specifications, we estimate our models in a Bayesian framework with a positive prior for the PM party variable that we derive from the theoretical prediction by [Baron and Ferejohn \(1989\)](#).¹⁷ A Bayesian approach is preferable to estimating Ordinary Least Squares for two reasons. First, both theoretical models of coalition bargaining and our empirical results for the non-core 14 samples yield a positive PM party effect. We do not want to ignore this relevant information. Second, disaggregating the postwar models into different regions results in small sample sizes that lack statistical power (see Table A5). Using theoretically informed priors helps us to overcome this lack of statistical power. Figure A8 displays the results. We find substantively positive PM party effects for all regions outside Western Europe with strong between-region heterogeneity. The credible intervals of three regional estimates do not overlap with the PM party effect estimated for the expanded Western European sample.¹⁸ Eastern European cabinets exhibit the weakest PM party effect outside Western Europe, and we would fail to uncover a statistically significant PM party effect using OLS. Last but not least, estimating the PM party effect with a theoretically informed prior even yields credible intervals that exclude 0 for the cabinet-fixed effects specification in the Western European sample!

¹⁷[Baron and Ferejohn \(1989\)](#) argue that the PM party should receive 2/3 of all portfolio shares in a two-party coalition, or twice the number of portfolios as the junior partner. We compute the difference in the 66.67th and 33.33th quantile of portfolio shares in each region, and use that difference as the prior for our regressions.

¹⁸The original Core-14 sample does not include 21 cabinets from the French 4th Republic, five cabinets from post-Cold War Greece, and one cabinet from the United Kingdom (see Tables A1 and A2).

Table A24: Bayesian linear regressions on partisan portfolio share in Africa and the Americas with theoretical priors of positive PM Party effect.)

	Africa			Americas		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.85 (0.76, 0.94)	0.84 (0.75, 0.94)	0.82 (0.72, 0.93)	0.76 (0.55, 0.96)	0.75 (0.54, 0.98)	0.75 (0.53, 0.99)
PM Party	0.07 (0.02, 0.12)	0.07 (0.02, 0.13)	0.08 (0.02, 0.14)	0.18 (0.07, 0.30)	0.19 (0.07, 0.31)	0.19 (0.06, 0.31)
Constant	(0.001, 0.04)	0.33 (0.22, 0.42)	0.34 (0.28, 0.40)	(−0.05, 0.11)	0.48 (0.39, 0.55)	0.48 (0.43, 0.53)
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	59	59	59	31	31	31

Table A25: Bayesian linear regressions on partisan portfolio share in Asia and Eastern Europe.)

	Asia			Eastern Europe		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
seatshare	0.84 (0.81, 0.87)	0.83 (0.79, 0.86)	0.80 (0.77, 0.84)	0.83 (0.79, 0.88)	0.83 (0.78, 0.87)	0.78 (0.73, 0.84)
PM Party	0.08 (0.06, 0.10)	0.08 (0.06, 0.10)	0.09 (0.07, 0.11)	0.02 (0.0000, 0.05)	0.02 (0.002, 0.05)	0.04 (0.01, 0.06)
Constant	(0.02, 0.03)	0.31 (0.26, 0.36)	0.34 (0.32, 0.35)	(0.04, 0.06)	0.35 (0.32, 0.37)	0.36 (0.35, 0.38)
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	833	833	833	519	519	519

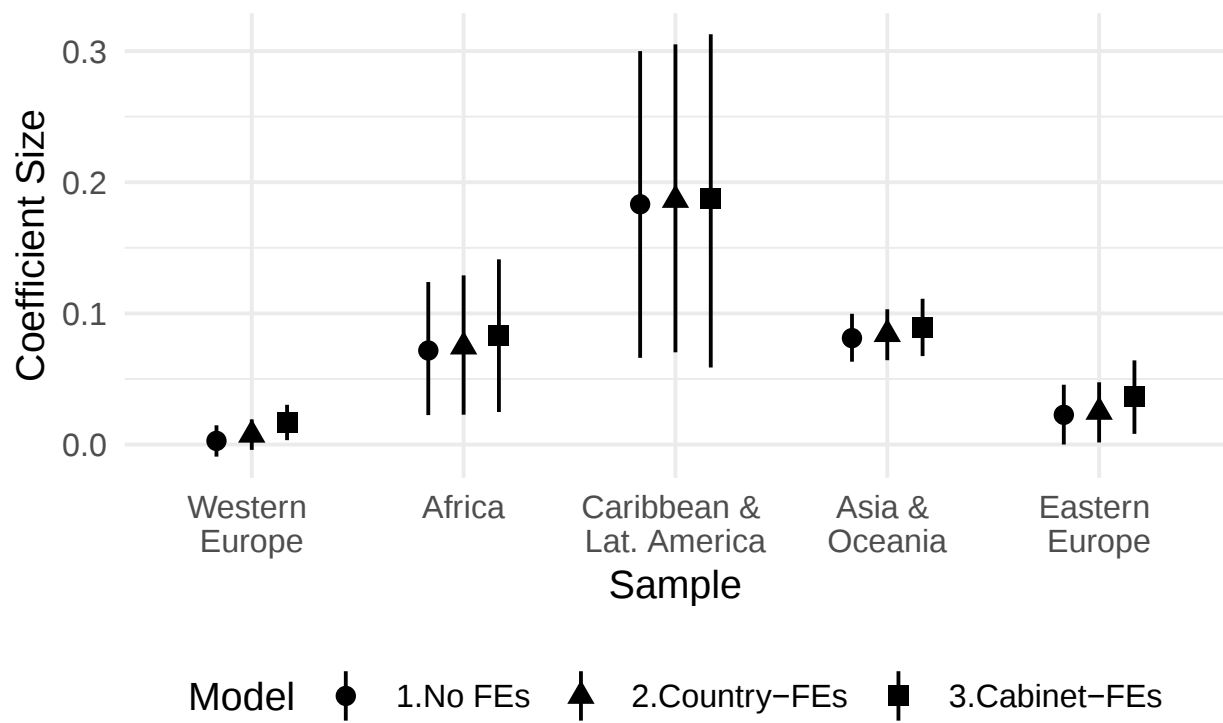


Figure A8: Postwar regions w/ positive prior (Tables [A24](#)-[A25](#)).

C.11 All observations: Bayesian estimation w/ empirical priors

Our final robustness checks constitutes the hardest test for our propositions. We return to our original analysis of the four regional samples but re-estimate the 12 models with a negative prior for the PM party variable based on previous empirical findings in the Core-14 sample.¹⁹ In spite of a negative prior, we continue to find positive PM party effects with credible intervals outside zero for the postwar other and the interwar Europe samples. The Core-14 sample is now consistently negative across all three specifications, while the Indian state sample shows negative PM party effects with credible intervals including zero, which reflects the greater power of the prior in the the small sample size of Indian states (see Figure A9).

Table A26: Bayesian linear regressions on partisan portfolio share in Core-14 and postwar other sample with negative priors based on previous PM Party findings.)

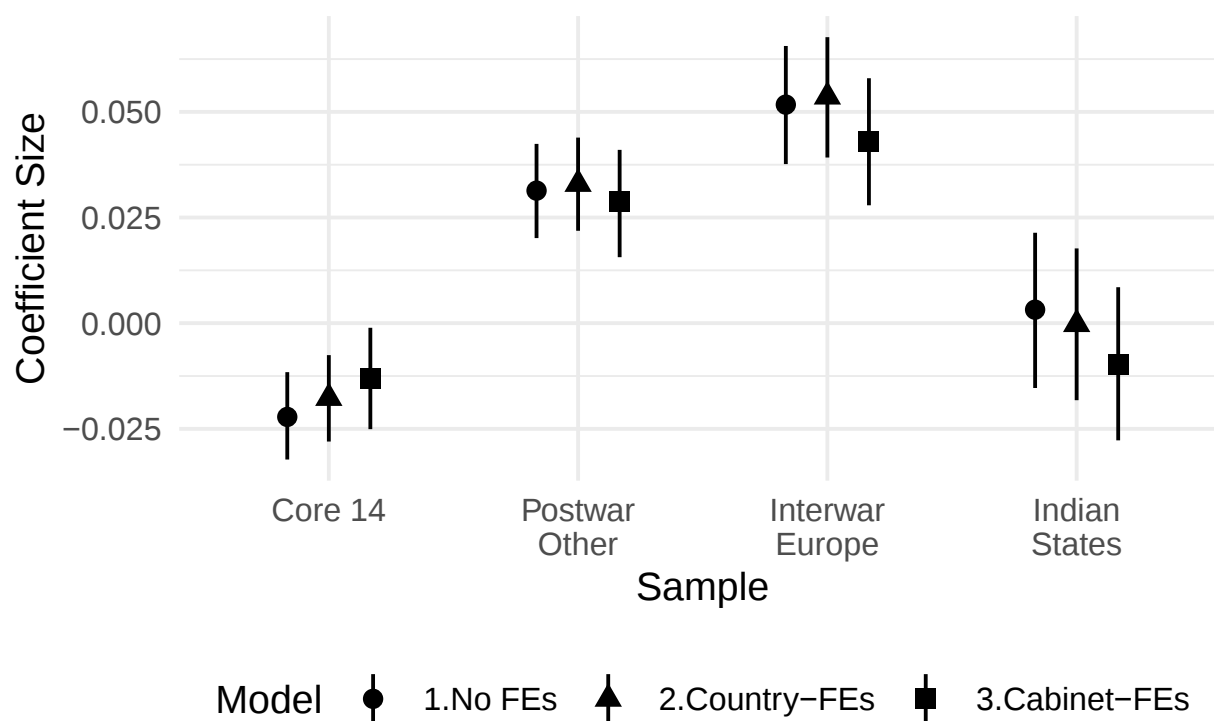
	Core-14			Postwar Global		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.83 (0.81, 0.86)	0.76 (0.74, 0.79)	0.80 (0.78, 0.83)	0.88 (0.86, 0.90)	0.86 (0.83, 0.89)	0.87 (0.85, 0.89)
PM Party	-0.02 (-0.03, -0.01)	-0.01 (-0.03, -0.001)	-0.02 (-0.03, -0.01)	0.03 (0.02, 0.04)	0.03 (0.02, 0.04)	0.03 (0.02, 0.04)
Constant	(0.06, 0.07)	0.37 (0.36, 0.39)	0.38 (0.33, 0.42)	(0.02, 0.03)	0.35 (0.33, 0.36)	0.34 (0.32, 0.37)
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	1019	1019	1019	1573	1573	1573

¹⁹We choose the PM party estimate for the Core-14 sample reported by Ariotti and Golder (2018: p.358, Table 2, Model 5).

Table A27: Bayesian linear regressions on partisan portfolio share in interwar Europe and Indian states samples with negative priors based on previous PM Party findings)

	Interwar Europe			Indian States		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.65 (0.62, 0.69)	0.60 (0.57, 0.64)	0.56 (0.51, 0.60)	1.28 (1.21, 1.35)	1.30 (1.23, 1.38)	1.37 (1.29, 1.45)
PM Party	0.05 (0.04, 0.07)	0.05 (0.04, 0.07)	0.04 (0.03, 0.06)	0.003 (−0.02, 0.02)	−0.0002 (−0.02, 0.02)	−0.01 (−0.03, 0.01)
Constant		0.35 (0.07, 0.10)	0.32 (0.30, 0.33)		0.38 (0.34, 0.43)	0.36 (0.33, 0.38)
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	982	982	982	347	347	347

Figure A9: Estimated PM party bonus in four different samples using Bayesian estimation and negative priors. Underlying regression results reported in Tables A26 and A27.



C.12 All observations in Core-14 states: postwar and interwar Europe

In this section, we compare different time periods of the Core-14 states. First, we replicate the analysis on the entire postwar period. Second, we use the [Warwick and Druckman \(2006\)](#) sample (1946-2000). Third, we employ the [Cox \(2021\)](#) sample (1946-2012). Finally, we subset the interwar period to the Core-14 democracies minus Ireland, which did not feature coalition governments during the interwar period. We do not find any variation in the different temporal slices of the postwar period, which all return a negative or near-zero coefficient on the PM party variable. In stark contrast, we estimate a very strong and statistically significant positive PM party effect in interwar Europe's Core-14 states.

Table A28: Linear regressions on partisan portfolio share in core-14 European states (1946-2020) and Warwick & Druckman sample (1946-2000)

	Postwar Core-14 Europe			Warwick & Druckman (2006)		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.83*** (0.01)	0.75*** (0.03)	0.80*** (0.03)	0.83*** (0.01)	0.75*** (0.03)	0.80*** (0.03)
PM Party	-0.02** (0.01)	-0.004 (0.01)	-0.01 (0.01)	-0.02** (0.01)	-0.004 (0.01)	-0.01 (0.01)
Constant	0.06*** (0.004)			0.06*** (0.004)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	1019	1019	1019	1019	1019	1019

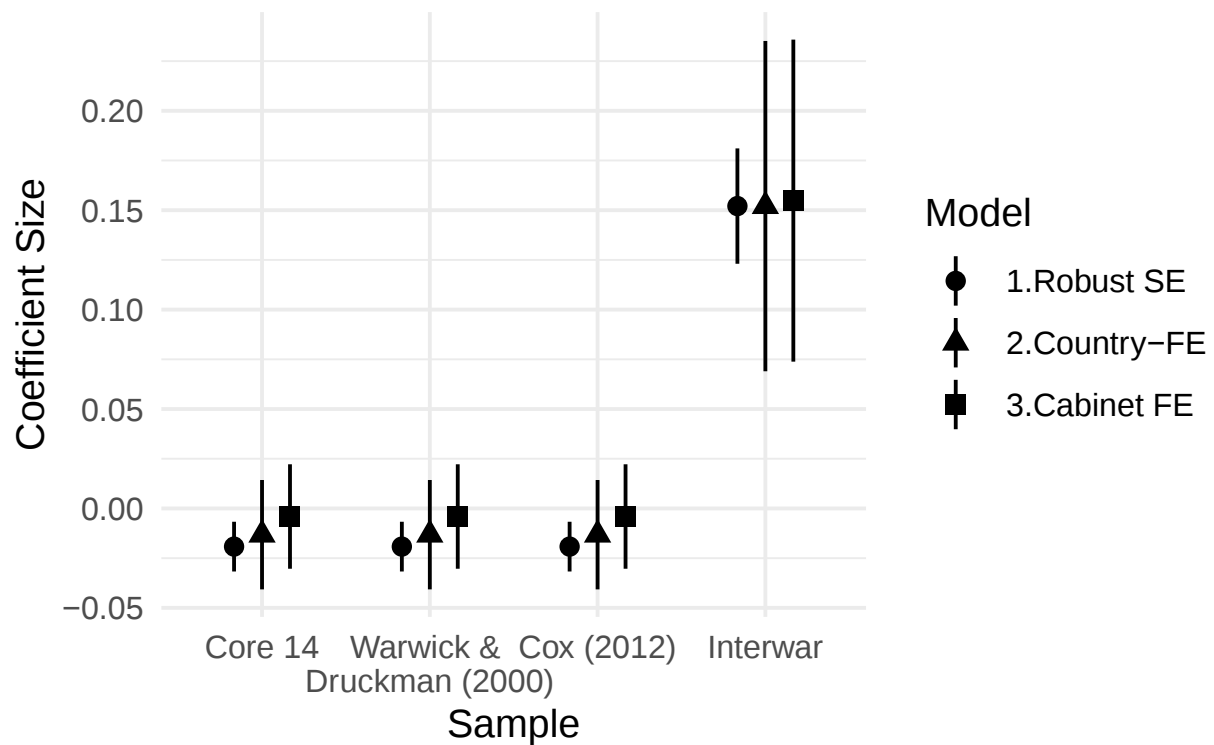
***p < .001; **p < .01; *p < .05

Table A29: Linear regressions on partisan portfolio share in core-14 European states, Cox (2021) sample (1946-2012) and interwar Europe sample (1919-1939).

	Cox (2021)			Interwar Europe		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Seat share	0.83*** (0.01)	0.75*** (0.03)	0.80*** (0.03)	0.47*** (0.03)	0.35*** (0.08)	0.43*** (0.06)
PM Party	-0.02** (0.01)	-0.004 (0.01)	-0.01 (0.01)	0.15*** (0.01)	0.15** (0.04)	0.15** (0.04)
Constant	0.06*** (0.004)			0.13*** (0.01)		
Country-FEs	No	Yes	No	No	Yes	No
Cabinet-FEs	No	No	Yes	No	No	Yes
N	1019	1019	1019	487	487	487

***p < .001; **p < .01; *p < .05

Figure A10: Estimated PM party bonus in core 14 states in different time periods. Underlying regression results reported in Tables A28 and A29.



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