The Institutional Foundations of Foreign Aid Fragmentation

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Abstract

Decades of research shows that fragmented foreign aid is less effective than its centralized and streamlined counterpart. Despite this, many country donors continue to thinly delegate their aid money over multiple agencies with overlapping and sometimes conflicting agendas. Why do otherwise rational leaders knowingly deploy foreign aid budgets in an inefficient way? Unlike existing work, I explore foreign aid from a purely domestic perspective, focusing on legislative coalition-building and the role of electoral institutions. I find that foreign aid fragmentation is not a conscious policy choice by the donor government, nor is it completely tied to geopolitical factors. Instead, it is a byproduct of bargaining within donor-government legislatures, much the same as trade protectionism. When domestic political institutions encourage the provision of district-level side payments, as is the case in majoritarian electoral systems and incentives for personal campaigns, foreign aid fragmentation will be higher. This suggests that the quality of foreign aid depends upon a combination of institutional and political factors within a donor state.

1   Introduction

An increasing number of countries consider foreign aid an important part of their foreign policy toolbox. Even foreign aid recipients are now becoming donors themselves, indicating that the policy benefits are enough to overcome the costs for even poor states. For years, scholars have been studying the use of foreign aid as a tool of geopolitics. At the same time, scholars have been studying the inefficiencies of many states' foreign aid practices. Despite evidence that aid is most effective when it is streamlined through a single agency, many states continue to fragment their aid among many bureaucracies and recipients. If foreign aid is such an important foreign policy tool, why do states continue to waste money delivering it in an inefficient way? This is even more puzzling given the relative unpopularity of foreign aid among many domestic audiences. Foreign aid has no natural constituency, making it often difficult for leaders to justify spending it. Given this difficulty, leaders should have even more incentive to ensure that every aid dollar counts. So why do leaders instead waste foreign aid dollars on bureaucratic overhead, making the policy even more unpopular and squandering what little money they are able to pull together?

Here I argue that leaders spend foreign aid inefficiently not *despite* but *because of* the difficulty of funding it. By only considering international goals for foreign aid, previous research has neglected an important component of foreign aid allocations: domestic side payments. I argue that a large portion of foreign aid spending is inward-looking: it is strategically designed to sweeten the pot of a foreign policy agenda. Legislators who are otherwise unwilling to support a foreign aid bill for its foreign policy merits may instead be enticed by particularistic benefits. Rather than simply consider the international outcomes of foreign aid, then, it is important to also consider its domestic causes and consequences. However, not all countries are equally vulnerable to these domestic considerations in foreign aid. The domestic institutions of an aid donor serve an important role in a leader's ability to pass an aid bill without particularistic inducements.

In this paper, I find that electoral institutions largely determine the ability of an aid

donor to effectively develop and deploy foreign policy tools through foreign aid. Institutions that increase the temptation for logrolling and vote-buying within a legislature, specifically majoritarian electoral institutions and incentives to cultivate a personal vote, increases aid's fragmentation. This is because legislators in majoritarian states and with personalist elections must work to satisfy their largely parochial geographic constituencies. This often forces them to disregard the national interest in favor of district-level goodies that please their voters. This is exacerbated by the political make-up of these democracies: when organized coalitions have a lower vote-share, party leaders are unable to prevent particularistic demands. A combination of electoral institutions and party vote-shares explains much of the variation in foreign aid fragmentation.

For years economists and policymakers have found negative correlations between foreign aid's fragmentation and its effectiveness.[1] Aid recipients whose aid is broken up into a larger number of small projects and bureaucracies tend to exhibit worse outcomes than recipients with streamlined aid. Similarly, aid donors who break up their aid implementation over many multilateral and bilateral organizations impede their own development and policy goals. As a recent OECD report states "Nobody seriously questions the fact that fragmentation is causing massive inefficiencies; there is, however, far less agreement on what needs to be done" (OECD 2009, page 30).

Despite knowing this, many donors continue to undermine their own foreign policy goals by spreading their aid thinly among multiple agencies and recipients. For example, the United States currently has dozens of agencies that wield foreign aid tools, with only about 60% of foreign economic assistance routed through its largest agency, the US Agency for International Development (USAID). In contrast, the Netherlands has recently made strides in reducing its own aid fragmentation, with 95% of its aid now being spent through a single agency(OECD 2017, page 35). What explains differences in states' foreign aid fragmentation?

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[1]See, for example, Steinwand 2015, Oh and Kim 2014, Lundsgaarde 2013, Aldasoro and Thiele 2010, Williamson 2010, Annen and Kosempel 2009, Djankov et al. 2009, Easterly and Pfutze 2008, Knack and Rahman 2007, Acharya et al. 2006, Barder 2005.

Here I argue that foreign aid fragmentation is often not a conscious policy choice by the donor government, nor is it solely a result of geopolitical maneuvering. Instead, fragmentation is largely a byproduct of difficult domestic policy negotiations within a donor-state legislature. The channeling of foreign aid funds to smaller agencies and more recipients represents a form of side payment that can facilitate the passage of a bill. The creation of and delegation to small agencies can be used as an incentive for recalcitrant legislators to support a foreign policy agenda. Similarly, allocating a small amount of aid to a specific recipient country may meet the demands of a specific pivotal legislator. States whose electoral institutions invite particularistic benefits and protectionism—specifically, those with majoritarian electoral systems and a personal vote—are the most likely to offer side payments to legislators in order to pass a foreign aid agenda, leading to an ultimately fragmented budget. The roots of foreign aid's effectiveness lie deep within a state's institutions, making it difficult to reshape and creating unexpected implications for policymaking in the long term.

The remainder of the paper will develop and test this theory. In the first section I will develop a theory of foreign aid fragmentation as a byproduct of bargaining within the legislative branch and explain why some states may rely more on particularistic side payments than others. I will derive hypotheses based on the theory of fragmentation as a byproduct of vote-trading. Based on previous comparative work on particularism, I hypothesize that majoritarianism and personal voting invite behaviors that lead to vote-buying and fragmentation. In section two, I will define fragmentation and introduce a country-year-level dataset of foreign aid fragmentation using the AidData project. This dataset includes two separate measure of fragmentation: one based on the number and spread of bureaucracies, and the second based on the number and spread of recipient states. In the third section I outline the statistical methods of this paper and test the hypotheses on the data. I also consider an alternate hypothesis, looking at the role of presidentialism on fragmentation. Finally, the fourth section will conclude with a discussion of the implications of this research for the study of foreign aid and foreign policy more generally. If foreign aid's effectiveness depends upon

the domestic political constraints of the donor government, then scholars and policymakers must reconsider the set of counterfactual aid policies a state may carry out.

2   Theory of Aid Fragmentation

Researchers have long understood the effects of foreign aid fragmentation. Its causes are less well understood. What little work exists on the causes of aid fragmentation has focused largely on fragmentation between, rather than within, donor states and international organizations. Trumbull and Wall (1994) suggest that states take into account the presence of other donors when deciding whether to provide aid to a potential recipient.[2] Steinwand (2015) considers the political causes of aid fragmentation on a global scale, studying donor states' decisions to take the lead within a recipient country. He argues that aid coordination is costly, and collective action problems decrease the likelihood that any donor state will be willing to pay the price. Fuchs et al. (2015) argue that donor states fail to coordinate for more competitive reasons: they want to retain access to export markets. In the context of international organizations, Pratt (2017) shows that the creation of new organizations is a largely geostrategic endeavor: states build new IOs to compete with existing ones when they are underrepresented in previous organizations. However, states' continuing decision to delegate to multiple multilateral and bilateral organizations is left unexplained.

While convincing, these arguments are best used to explain the fragmentation of aid funding *between* donor states. There remains little understanding of the political causes of foreign aid fragmentation *within* these donor countries. An explanation of domestic-level foreign aid fragmentation must consider variation over time. A simple count of aid agencies shows why: even similar-seeming countries diverge over time in their aid practices. Figure 1 below compares the number of aid agencies in several countries reported in AidData over time.[3] The recent divergence in aid practices suggests that recent changes in aid fragmenta-

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[2]Other scholars have questioned whether and when states tend to crowd or coordinate in foreign aid. For examples, see Katada (1997), Bobba and Powell (2006), and Barthel et al. (2014).

[3]AidData comes from Tierney et al. (2011).

tion are not solely due to international or systemic factors. Different donors have responded to the international environment in different ways. The starkly heterogeneous patterns over time of programs for seemingly similar states suggests a domestic politics explanation.

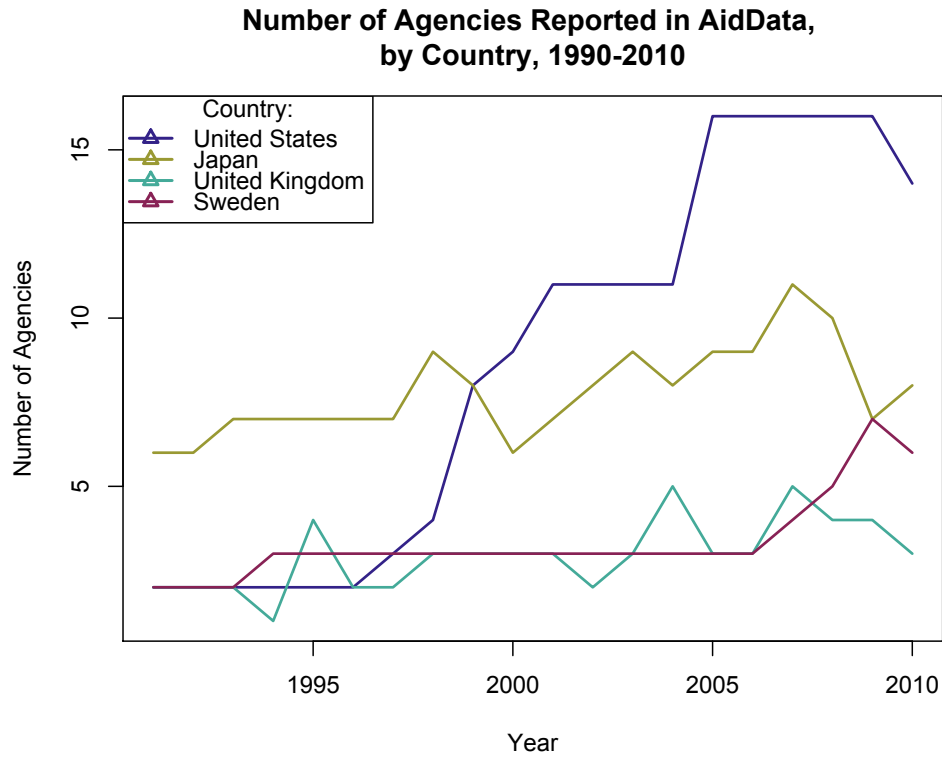**Number of Agencies Reported in AidData, by Country, 1990-2010**

Figure 1

In this paper, I develop a theory of foreign aid fragmentation as a byproduct of bargaining and side payments within a donor-state legislature. Counterintuitively, a leader's attempts to maximize foreign aid spending may result in less effective foreign aid policy. This is because leaders' strategies to collect legislative votes in favor of a foreign aid bill can make that bill more fragmented. State leaders have many reasons—such as geopolitics, status, and altruism—to support foreign aid. However, not all legislators feel the same. Those legislators who do support foreign aid often do so for heterogeneous reasons. Similarly, the multitude of aid agencies that all donor states have at their disposal are also heterogeneous. Bureaucracies can vary in their methods of carrying out aid, the interests they represent, and

the system of rules and oversight they face. This heterogeneity may give some donor-state legislators reason to prefer one aid organization over another. Knowing this, leaders that are facing a vote shortage on a foreign aid agenda may be tempted to offer side payments to some fence-sitting legislators by diverting aid funds to their pet-project organizations or countries. Once enough pet projects are funded, fragmentation will result.

This theory draws from previous literature on public goods provision, electoral institutions, and trade protectionism. Like previous literature, I argue that certain electoral rules are vulnerable to earmarking. Unlike this previous work, I show that this bias can having unexpected implications in realms of international cooperation not previously explored. The same pathways that lead states with single-member districts and personal elections to protect their constituencies through earmarks, tariffs, and subsidies can also lead them to demand smaller, more fragmented aid projects that do not necessarily benefit the national interest or global development. Similarly, these mechanisms can give outsize influence to legislators' country pet projects, thus spreading foreign aid thinly and inefficiently among many recipient countries. When more districts and legislators have particularistic preferences, foreign aid fragmentation of all types increases. This is a result of legislative bargaining process, in which votes are traded for pet projects.

2.1   Electoral Institutions and Vote-Buying

In this paper, I consider the role of two aspects of electoral institutions: majoritarianism and the personal vote. Both have been connected in past research with particularism. And both should therefore lead to more vote-buying in a foreign aid bill. The theory so far has suggested that vote-buying is a major cause of foreign aid fragmentation. First, I will consider the link between electoral institutions and vote-buying. Following that, I will further explore the link between vote-buying and fragmentation.

Institutions that favor single-member districts often lead to particularistic voting agendas. In contrast, proportional representation systems are associated with lower demand for dis-

tributive politics.[4] According to a theory of public goods provision developed by Lizzeri and Persico (2001), a proportional representation (PR) system provides incentives for politicians to offer more public goods, rather than pork. This is because legislators seeking district-level benefits, more common in plurality systems, often find it useful to provide visible distributive goods that only benefit a specific district or population. Vote-buying through distributive politics, therefore, should be more common in majoritarian electoral systems.

Lizzeri and Persico's theory has been tested and modified since, although as Golden and Min (2013) point out, it is difficult to test these cross-national differences on a large scale. Milesi-Ferretti et al. (2002) coded the types of spending in OECD and Latin American democracies and found that PR systems indeed spend fewer resources on district-specific goods. Stratmann and Baur (2002) leveraged variation in electoral institutions within the German Bundestag, where some legislators are elected through PR and others through plurality rules. Their results were similar: legislators elected through PR institutions are more likely to serve on committees that support general public goods, while those elected through plurality systems are more likely to serve on committees that aid a narrow set of geographic or particularistic interests and provide more pork-barrel projects. More recent work has suggested that district magnitude may play a role in these patterns (Carey and Hix 2011, Chang and Golden 2007), but the general perception that PR systems provide more incentives for public goods, and less vote-buying, is unchanged.

This literature has been applied to foreign policy as well. Work on trade protectionism has laid much groundwork toward understanding the role of domestic institutions in foreign policy. Grossman and Helpman (2005) developed a model of electoral institutions to determine how trade protectionism comes about in a democracy. They found that "protectionist bias" can result from majoritarian institutions, which provide an incentive for legislators in

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[4]This work considers previous research highlighting the differences between plurality and proportional representation (PR) systems. A plurality electoral system is one in which legislators are elected in single-member districts, in which the first legislator "past the post" takes the entire district regardless of the proportion of his/her and other candidates' vote shares. Proportional representation, on the other hand, encourages parties to maximize their overall vote shares. Rather than simply allowing one winner in each district, PR systems allow all relevant votes to represent some proportion of the resulting legislative body.

single-member districts to demand protection for their concentrated constituencies. Evans (2009), Rickard (2012), and others have found support for this theory through various measures of trade protection, such as tariffs and subsidies. Tariffs result from similar processes that drive earmarks in domestic politics. Conventional wisdom would have it that particularistic policies disproportionately result from majoritarian systems.

Surprisingly, no research to date has applied this theoretical framework to foreign aid. This is despite the fact that many foreign aid agencies are unapologetically designed and implemented as a direct form of export subsidy. In the United States alone, the Export-Import Bank (EXIM) has "a mission of supporting American jobs by facilitating the export of U.S. goods and services,"[5] the Overseas Private Investment Corportation (OPIC) "is a self-sustaining U.S. Government agency that helps American businesses invest in emerging markets," [6] and the US Trade and Development Agency (USTDA) "helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies".[7] These are just the agencies that claim to support trade, but many other agencies that are ostensibly for development purposes have their own pro-commerce offices. Much of the pro-foreign-aid rhetoric in the US and elsewhere has often highlighted its role in promoting trade (OECD 2006).

Finally, one more potential explanation remains to be considered: the role of the personal vote in inviting particularistic demands. Collective action problems make national-interest legislation difficult to pursue when legislators are more worried about their personal reputation. Certain voting rules are known to create an incentive for politicians to single themselves out as individual candidates rather than supporting a larger party agenda. These rules also encourage legislators to seek particularistic benefits rather than supporting the national interest. Nielson (2003) shows that this leads to higher trade barriers. Following the logic previously mentioned, personalist voting institutions may also lead to more fragmented for-

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[5]https://www.exim.gov/about
[6]https://www.opic.gov/who-we-are/overview
[7]https://www.ustda.gov/about/mission

eign aid. When enough legislators make particularistic demands in a foreign aid bill, asking that their bureaucratic or country pet project be funded, they can fragment the budget.

2.2   Buying Domestic Support for Foreign Aid

Understanding the link between vote-buying and foreign aid requires a consideration of why states pursue foreign aid in the first place. At first glance, foreign aid may appear altruistic. However, foreign aid policy can in fact serve an important role in a state's foreign policy agenda. In both peace[8] and in war,[9] foreign aid can provide leverage to a donor government and forward its foreign policy agenda. An aid budget can therefore be a powerful tool. These benefits of foreign aid are generalized and compose a state's national interest.

However, not all policymakers are equally motivated by aid's benefits to the national interest. Foreign aid has no natural constituency, making it unappetizing to many publics. Unlike many domestic policies, voters are not the ones obviously benefiting from foreign aid. Given this, elected governments may find it difficult to manipulate foreign policy through foreign aid expenditures. Leaders have two options at their disposal. First, they may use their power in the domestic legislature to push a national foreign aid agenda. This is a likely solution in states where centralized leadership is strong and constituencies are difficult to separate into geographic units. However, leaders in other states may have to resort to another strategy.

The second option is to buy support from a set of influential legislators by offering perks to those who vote yes. This amounts to legislative "vote-buying," an increasingly important field of study in comparative politics (Saiegh 2011). Such a solution allows weaker leaders to promote their foreign policy agenda in the face of ambivalence. However, vote-buying has side effects. Specifically, vote-buying can drive leaders to divert aid funding to small pet projects represented by specific legislative districts. These pet projects can be represented

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[8]Bueno de Mesquita and Smith (2016), Arel-Bundock et al. (2015), Meernik et al. (1998), Schraeder et al. (1998), Heinrich (2013), **?**, Bermeo (2011), **?**, Kuziemko and Werker (2006)
[9]Kisangani and Pickering (2015), Findley (2018)

through a specific domestic agency or a recipient country. The fragmentation of foreign aid, both among donor bureaucracies and among recipient countries, is a casualty of this process. The more pet projects are represented in a foreign aid bill, the more fragmented that bill will become.

That foreign aid offers particularistic benefits is no surprise. Milner and Tingley (2010) and Prather (2014) have shown that aid preferences can match other internationalist preferences, following a Stolper-Samuelson model, suggesting that constituents who benefit from internationalist policies similarly benefit from foreign aid. Some aid agencies work disproportionately with specific domestic contractors, which can be concentrated within specific districts. Powers et al. (2010) have shown in the US case that these contractor districts disproportionately reward their representatives for pro-aid votes. This could lead some legislators to support funding toward a specific agency that works with his or her constituents. Finally, Bermeo and Leblang (2015) detail the connection between diaspora groups and aid policy. Insofar as diaspora groups are concentrated in specific constituencies, they may have the power to demand aid projects being deployed to their countries of origin. This could lead representatives from these districts to support aid to sent to specific recipient countries.

Although not all legislators have reason to support foreign aid policy as a whole, diverse motivations can lead legislators to support certain types of aid or certain recipients. Fortunately for them, legislators in developed democracies have a variety of aid organizations and recipient states to choose from. While the most generalized aid agency in a given country may not work toward a given legislator's pet project, be it particularistic or policy-related, there is often another agency that will. Multilateral aid organizations provide further opportunity to demand pet projects, while simultaneously allowing some legislators to avoid delegating to their own executive branch (Milner and Tingley 2013). When a legislator wants foreign aid to be implemented in a specific way, or to target a specific interest or diaspora group, he or she may shop around for an agency that best serves these interests. This means that some legislators have reason to prefer some agencies over others. Alternatively, a legislator may

simply demand that foreign aid be sent to a particular country, regardless of the agency.

An example of this from the US case can be found in the 1969 creation of Inter-American Foundation (IAF). The IAF implementing legislation was written in part by a moderate Republican legislator, Rep. Bradford Morse. Morse was generally in favor of foreign aid—he would later serve as Administrator of the United Nations Development Programme—but he was concerned with the way the Nixon administration was carrying out foreign aid policy in the Western Hemisphere. He viewed US aid as becoming increasingly militarized and wanted to ensure that the war in Vietnam would not spread to Latin America. After joining a congressional delegation to South America and seeing little evidence of development assistance, Morse began planning for a new agency that would not be as easy for the military to co-opt. He demanded the creation of and delegation to the IAF, which could only work with grassroots organizations in Latin America, in an effort to ensure that foreign aid would be spent in a way that he and his constituents preferred. In exchange for his continued support for US foreign aid as a whole, congressional leadership allowed for the creation of a new agency, the IAF (Ruttan 1996). This also supported Morse's specific interest in Latin America. Although his interest was motivated more by personal, rather than constituency interests, it is easy to see how delegation to the IAF could increase the share of aid to South and Central America.

Specific legislator preferences are often best served through small agencies and programs that are able to target a specific constituency or recipient. In contrast, the national interest and international development are best served by channeling a country's aid funds through one large, flagship aid agency, or through just a few multilateral organizations. This creates a trade-off for national leaders who want to pass a foreign aid bill in the most straightforward way possible but who must convince an often diverse group of legislators that the bill would favor their interests. When leaders are unable to convince these legislators through other means, they may be forced to divert funding more thinly to an increasing number of agencies and recipients as a form of side payment. As side payments increase, and funding becomes

more widely dispersed, the foreign aid budget will become increasingly fragmented, and aid's effectiveness will suffer as a result.

2.3 Hypotheses

Because legislators in majoritarian systems tend to have more concentrated constituencies and district-wide campaigns, they are more likely to demand pet projects than more dispersed PR-system legislators. This is especially true in foreign aid, which does not have a natural constituency and whose benefits can be difficult to directly see. Once again, when legislators' pet projects are best represented by a specific agency or recipient, fragmentation can result. The same mechanisms that lead plurality systems to disproportionately provide pork-barrel projects and trade protection, lead these same democracies to fragment their foreign aid.

Ideally, I could test this theory directly, by measuring the total vote-buying that occurs in various donor states and identifying when this process leads to projects or countries receiving foreign aid that would not otherwise. However, vote-buying often occurs behind the scenes and can be difficult for an outsider political scientist to outright measure. Instead, I am forced to consider independent variables which I know are correlated with vote-buying practices. Certain institutions make distributive politics more likely. I expect those institutions to lead to fragmentation. This brings me to the first hypothesis I will be testing in this paper.

Hypothesis 1: Foreign aid will be more fragmented in majoritarian electoral systems than it is in proportional representation systems.

The first hypothesis only considers variation between donors. However, states also vary over time in their fragmentation. How does the theory explain this within-country variation? Regardless of electoral institutions, logrolling within a legislature should change year over year. It should be most prominent when the majority party is weak and therefore unable to pass legislation through more traditional means. The theoretical mechanisms outlined in Grossman and Helpman (2005) suggest that parties' ability to control policy is a factor in the need to offer tariffs and other inducements to pursue a policy. Ehrlich (2007) found a

connection between party strength and tariffs. A strong majority party is able to leverage votes that directly support the national interest. In contrast, a weak majority party contributes to further legislative deadlock and more log-rolling. The vote share of the majority party should be a crucial aspect of its strength. Therefore, all else equal, when donor states' majority parties or coalitions have a greater share of votes, they should not have to resort to as much vote-buying in order to pass a foreign aid bill. Less vote-buying, in turn, should result in less fragmentation in the aid budget.

Hypothesis 2: A decrease in a majority party or coalition's vote-share within a donor-country legislature will lead to a decrease in foreign aid fragmentation.

These two hypotheses suggest that a combination of domestic institutions and political reality should play a role in determining the total aid fragmentation in a given state in a given year. If it is true that fragmentation reflects a government's attempt to craft foreign aid legislation in the absence of a natural constituency, then the above factors, which limit the passage of bills, should increase the phenomenon.

Finally, majoritarian institutions are on the only factors in vote-buying. Institutions that incentivize politicians to cultivate a personal vote should also invite particularism. When politicians must make a name for themselves rather than simply supporting a party or national agenda, they may be more likely to demand and receive district-wide benefits. Once enough of these benefits are procured, a fragmented foreign aid agenda will result.

Hypothesis 3: Foreign aid will be more fragmented the more a donor's electoral systems incentivize a personal vote.

3   Data

The dependent variables of interest represent annual measures of foreign aid fragmentation within an aid donor state. The unit of measure is the country-year: aid fragmentation varies for each country in the dataset for every year. The independent variables include various measures of state-level institutions and vote shares. Although the unit of analysis is the

country-year, some of the institutional measures introduced below do not vary over time. The statistical models account for that lack of variation in some independent variables.

3.1 Dependent Variable: Foreign Aid Fragmentation

Two types of foreign aid fragmentation should be relevant to the theory outlined above. I therefore conduct two sets of statistical tests on two dependent variables. The first variable is *organizational fragmentation*, or the spread of financial resources among independently reporting bureaucracies. This measures the degree to which certain parties are able to demand foreign aid through a specific agency for funding source. The second measure of fragmentation is *recipient fragmentation*, or the spread of foreign aid funds among recipient countries. OECD guidelines suggest that donors concentrate their aid programs through a few select recipients, in order to maximize bilateral relationships. However, many states spread their funding over many recipient states. Once again, a measure of this spread corresponds to the ability of individual interests to demand that their favorite country receive foreign aid funding, to the detriment of foreign aid policy as a whole. The derivation of these measures is described in greater detail below.

I define *organizational fragmentation* as a relatively thin spread of financial resources among independently reporting bureaucracies. This involves two components: the number of agencies, and the spread of funding among those agencies. The existence of multiple aid agencies alone does not in itself create fragmentation. It is possible to imagine a situation in which several agencies are carrying out foreign aid but a single large agency leads and coordinates the others.[10] This would reduce some of the problems associated with fragmentation, as a lead agency has an incentive to ensure aid effectiveness and policy cohesion. On the other hand, a relatively thin spread of agency funding exacerbates collective action problems, limiting any agency's incentive to take the lead. The total number of agencies

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[10]This fits with research about foreign aid fragmentation among states, where a "lead donor" taking control can counteract the collective action costs of having too many individual donors. See, for example, Steinwand (2015) on the importance of lead donors for aid coordination. See Lundsgaarde (2013) for an qualitative comparative breakdown of the number and funding spread among aid agencies in OECD countries.

tends to be sticky: agency creation is a rare event, and deciding which agency creation events are important can be subjective. On the other hand, the spread of funding between agencies is a measurable phenomenon, which varies on an annual basis. The quantitative analysis below will therefore focus on the latter, rather than the former, component of organizational fragmentation.

I measure of the spread in budget share across donor-state bureaucracies by calculating a Herfindahl-Hirschman Index (HHI) of the foreign aid spending for each country in each year of the dataset. The HHI is a common measure of aid fragmentation in the economics literature, which studies economic measures of market monopolization. It is calculated by summing the squared market share of each firm; therefore, it is bounded by zero and one. In measuring fragmentation, a high HHI indicates that one agency has a large share of the total budget, meaning the state has low fragmentation. In order to simplify interpretation, I subtract the HHI from one to determine the absence of a market monopoly of foreign aid. This value—one minus the HHI—measures the overall fragmentation of a donor state's foreign aid budget in a given year.

My data come from the AidData project, which provides a relatively comprehensive time-series cross-sectional data on foreign aid projects over the past decades.[11] I limit the dataset to all democracies for the analyses below. In the Appendix, I also restrict the analysis to a subsample of the data, with largely similar results. AidData's reporting depends upon the quality of information represented by donor states themselves, and it is unlikely that all states have equal data quality. This can be problematic if there is some reason to believe that some types of states have more detailed reporting standards than other types of states. Such a scenario could result in more granular reporting by some states than others, resulting in the mistaken impression that states are more fragmented when in fact they are simply more diligent. In order to partially account for this potential problem, I limited the data to a subset of states that should be relatively diligent data reporters. To do so, I selected only

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[11]For more on the AidData project, seeTierney et al. (2011).

Median Within–Donor Aid Fragmentation
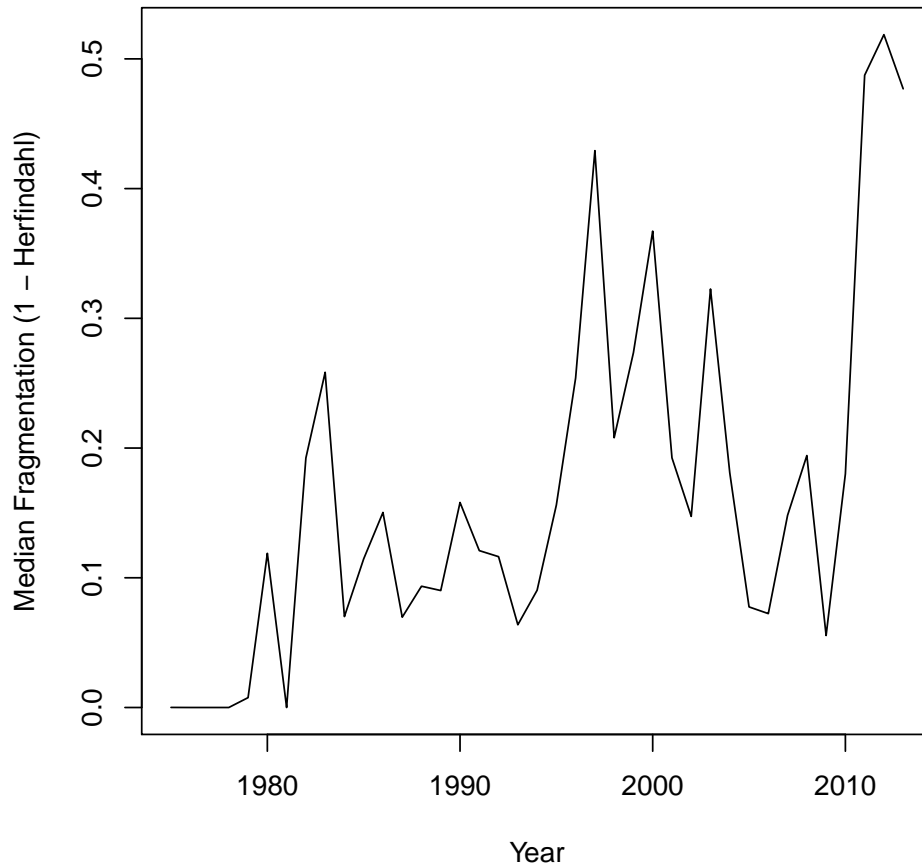
Figure 2

the states that reported data for all of the 39 years that AidData provides, 1975-2013.[12] This limits the sample to fourteen countries but allows me to better ensure that data reporting was consistent among the states sampled.

Figure 2 displays the median organizational fragmentation levels over time for all states in the dataset. As is clear in the figure, fragmentation appears to be increasing over time. The general time trend may be a partial reflection of geopolitical shifts, such as the end of the Cold War, and global economic cycles. A full accounting of global foreign aid trends would

[12]See the Appendix for a list of the included states. In a separate analysis, I also included all countries in AidData. The main results hold in both samples. No samples included non-democratic donor states, but future work should develop theories for aid fragmentation in authoritarian states.

**Foreign Aid Fragmentation,
By Country**
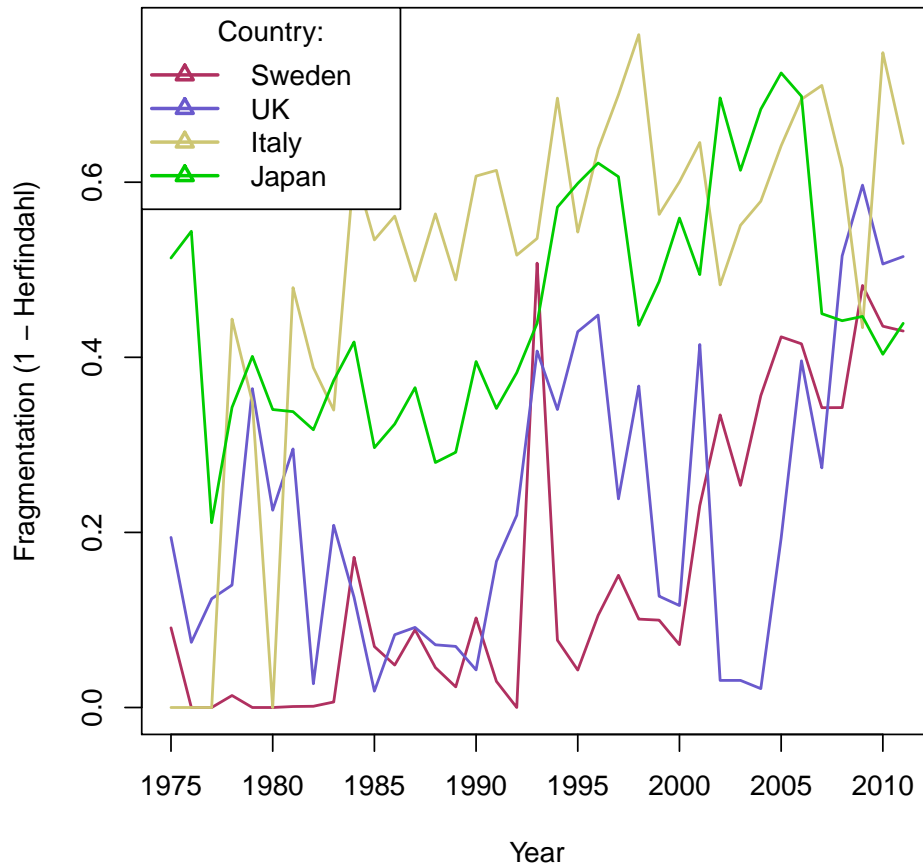
Figure 3

be interesting to examine but is not the purpose of the present work. A more interesting phenomenon is the fact that foreign aid fragmentation trends are heterogeneous. States differ in their foreign aid fragmentation trends. Figure 3 below illustrates the changes in fragmentation for five parliamentary democracies. As is clear in the figure, different states have developed their aid bureaucracies differently. The heterogeneous patterns of these states' fragmentation shows that domestic institutions and electoral outcomes may play as much of a role in fragmentation as global-levels changes.

I operationalize fragmentation among recipients in a similar way. Using a Herfindahl-Hirschman Index and AidData, I measure the spread of a donor state's funding over all

Measures of Aid Fragmentation
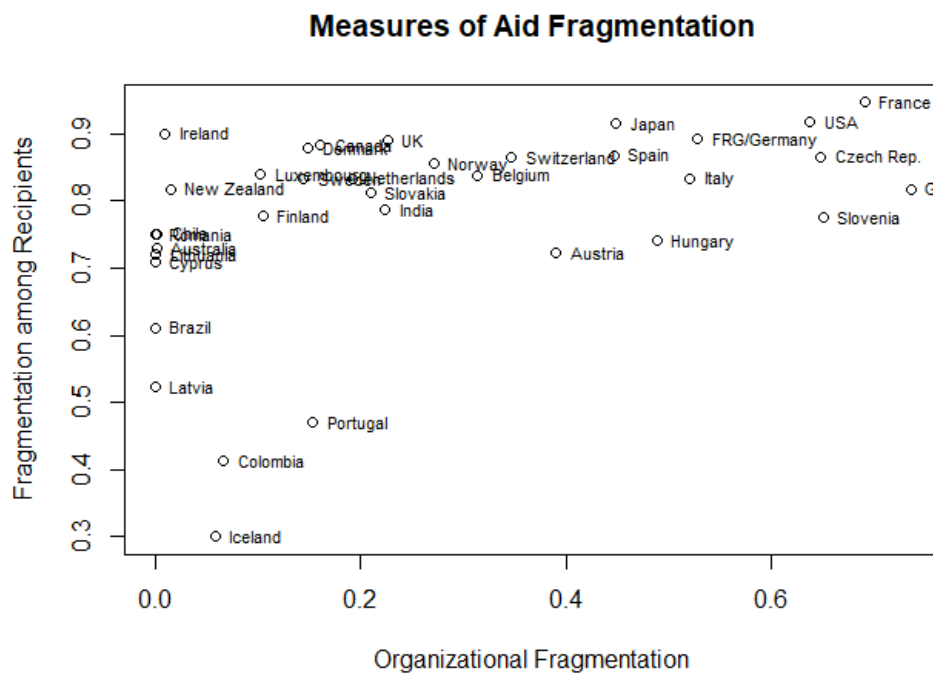
Figure 4

recipient states. Ideally, a donor would concentrate much of its funding over a few major recipients. However, this is rarely the case. States vary in their funding spread, just as they do in their organizational fragmentation. Figure 4 compares the mean organization and between-recipient fragmentation for all democracies in the dataset. The two measures are correlated to some extent, with a few countries (such as Iceland and Colombia) being very low in both measures, and others (such as France and the United States) relatively high. However, there is some variation in the two measures. They are positively correlated with an R-squared of 0.12. Outliers such as Ireland and New Zealand are interesting cases to consider in future research.

I expect both forms of fragmentation to be associated with legislative vote-buying through personalistic benefits. If the theory is correct, then vote-buying should take place when legislators have individual preferences about how foreign aid should be used. These preferences may correspond to a specific program or agency that disproportionately benefits a geographic constituency. Or they may be related to a specific recipient country that, for whatever rea-

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son, is special to the legislator or constituents. Regardless, the more vote-buying takes place within a legislature, the more fragmented foreign aid should become.

3.2 Independent and Control Variables

The independent variables of interest in this paper are drawn from the Database of Political Institutions (DPI) 2015 dataset (Beck et al. 2001). The two hypotheses each lend themselves to different independent variables.

First, proportional representation systems lead to different outcomes from plurality systems. The binary variable "Proportional Rep" is coded 1 if the donor state uses a PR system, and 0 otherwise. Second, I measure the power of the legislative majority party or coalition in the donor state. To proxy this, I code the total vote share of the majority party (or coalition) in the given country-year. For coalition governments, I summed the vote shares of every party in the coalition.

Second, a strong majority should correspond to relatively greater agreement within the legislative branch. If the theory is correct, this in turn should correspond to a lower level of foreign aid fragmentation in the given country-year. The variable "Majority Vote-Share" considers the relative power of the majority party. Similarly, the "Opposition Vote-Share" variable represents the sum of the vote-shares of all members of the opposition party coalition in a given legislature. I presented no specific hypothesis for opposition vote-share, and indeed, it could have any number of effects on fragmentation. A high opposition vote-share could create discord in the legislature, creating greater fragmentation. On the other hand, a strong minority presence could make interparty bargaining easier, meaning that policy concessions could be more streamlined. Rather than each legislator acting on his own, resulting in a lot of pet projects, a strong opposition could simply make coherent policy demands.

Third, certain institutions incentivize politicians to cultivate a personalist vote. This has been known to lead to greater particularism. In turn, then, it should leader to greater temptation to fragment the foreign aid budget. Following work by Carey and Shugart (1995), I

draw from Johnson and Wallack (2012) to determine the ballot and voting rules for various democracies. I use the variables that are considered most important in reining in the personal vote: ballot control, access to vote lists, and vote pooling. Carey and Shugart (1995) developed a 13-point ranking of the personal vote, "Personal," which I use as the major independent variable of interest.

Finally, these tests require several other control variables. First, it is possible that wealthier states and states with greater overall foreign aid spending create a larger bureaucracy in an attempt to better manage their many aid projects. I therefore control for "GDP," "GDP/capita," and "Total Aid Budget" on an annual level. Next, the relationship between the two branches of government in a division-of-powers system may temper the effects of electoral institutions. It is therefore important to include a variable that considers this variation. "Unified Government" measures the unity between branches. It is coded as 1 if the executive and all legislative chambers are controlled by the same party and 0 otherwise. Finally, unobserved differences require me to include year-level fixed effects.

The independent and control variables are summarized in Table 1 below.

Table 1

Statistic	N	Mean	St. Dev.	Min	Max
Fragmentation	520	0.298	0.259	0.000	0.834
Presidential	520	0.062	0.241	0	1
Proportional Rep.	520	0.713	0.453	0	1
Majority Vote-Share (%)	520	47.465	8.630	11.100	70.200
Opposition Vote-Share (%)	520	41.823	11.808	8.700	82.400
Unified Government	520	0.171	0.377	0	1
GDP (million USD)	520	1,139,448	1,922,010	31,470	13,857,900
GDP/capita	520	26,533	15,879	4,041	100,819
Total Aid Budget	520	3,158,747,063	4,690,331,643	2,435,104	28,214,014,218

**Mean Bureaucratic Fragmentation
in PR vs. Plurality Systems**
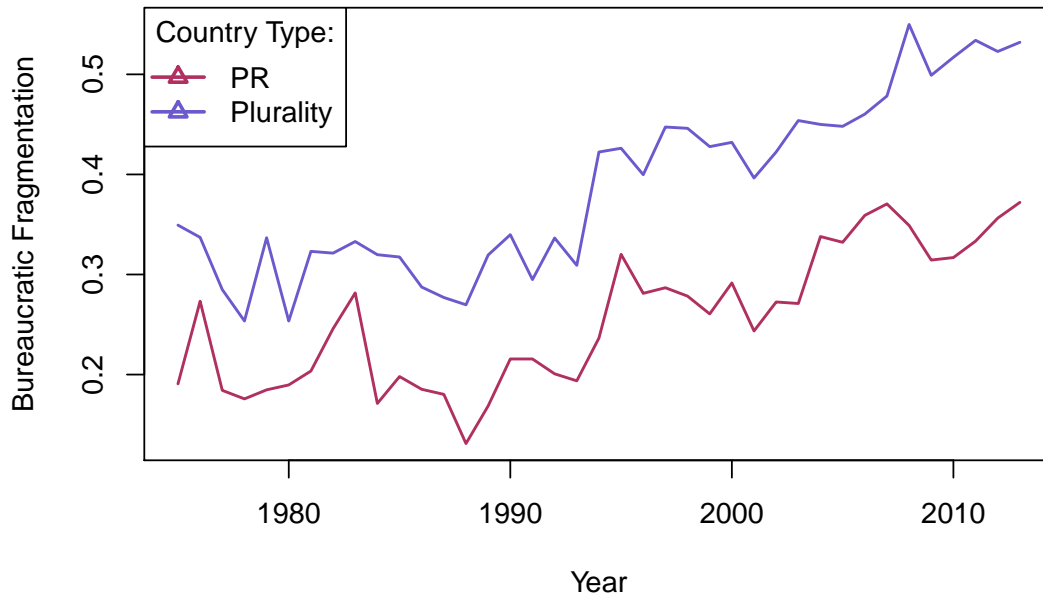
Figure 5

4 Methods and Results

Using the country-year measures of aid fragmentation described above, I test the two hypotheses laid out in the Theory section of this paper. Later, I also introduce and test an alternative hypothesis. Because the dependent variable is censored (it cannot be greater than 1 or less than 0), the Appendix also reports results using a Tobit analysis. Because errors may be correlated within countries, I also cluster standard errors on the state level.

4.1 Proportional Representation and Majority Strength

Figure 5 displays the total fragmentation levels, over time, for states with PR versus plurality institutions. This provides an initial confirmation of the theory, showing a consistent trend of greater fragmentation for plurality than proportional representation systems, with differences that change little over time.

Table 2 below shows more consistent evidence for this. In all models, plurality systems present more fragmented foreign aid than other electoral systems.[13] This is true regardless of vote-share, wealth, and the total aid budget. Models 1-3 show the results for organizational fragmentation, or the way aid is split up between donor-state bureaucracies. A one-unit decrease in proportional representation—essentially, a switch from plurality to non-plurality—increases the organizational fragmentation of a state's foreign aid budget by around 0.17 (the coefficient is lower once fixed effects are included). This represents more than half of a standard-deviation change in fragmentation.

Similarly, the aid budget's fragmentation between recipient states (Models 4-6) is also correlated with plurality institutions. The coefficient is smaller in these models. A switch from non-plurality to plurality institutions corresponds with a 0.09 increase in the fragmentation of aid among recipients. The standard deviation of this variable is 0.19, so once again, political institutions account for nearly half of a standard deviation in the dependent variable. This may not seem like much, but it amounts to a larger change than billions of dollars in the foreign aid budget or GDP.

Next, Hypothesis 2 suggested that vote-buying should be especially necessary when the majority party is weaker. Therefore, a high vote share of the majority party should minimize the need to buy votes in a way that fragments a foreign aid budget in a given year. Some models in Table 2 support this hypothesis more than others. The coefficient on government vote share is consistently negative, the expected direction. In the recipient-country-fragmentation models, it is significant. In the organizational fragmentation models, it is not. This indicates that when the majority party has a higher vote share, fragmentation may decrease, as the theory would suggest, but perhaps only among recipient states. The point estimate in the bivariate regression is very close to zero, at -0.032. This indicates that a change in vote-share may not have a large substantive effect on fragmentation. A one-standard-deviation increase in majority vote-share (8.6%) would only increase fragmentation by less than 0.03. This is

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[13]Substituting a PR variable, or including both PR and plurality variables, creates similar results. Regardless of the specification, PR systems result in less fragmentation and plurality in more.

Table 2

| | Dependent variable: | | | | | |
| | Organizational Fragmentation | | | Recipient-Country Fragmentation | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Plurality	0.169***	0.098***	0.091***	0.094***	0.090***	0.103***
	(0.019)	(0.022)	(0.022)	(0.014)	(0.016)	(0.016)
Gov. Vote Share		−0.002*	−0.001		−0.003***	−0.004***
		(0.001)	(0.001)		(0.001)	(0.001)
Opp. Vote Share		−0.002*	−0.002**		0.001	0.001
		(0.001)	(0.001)		(0.001)	(0.001)
Unified Government		0.028	0.018		0.039**	0.051**
		(0.026)	(0.027)		(0.020)	(0.020)
GDP		0.00004**	0.00004**		0.00002	0.00002
(billion USD)		(0.00002)	(0.00002)		(0.00001)	(0.00001)
GDP/capita		0.017	−0.093		0.171***	0.356***
(100,000 USD)		(0.060)	(0.079)		(0.045)	(0.059)
Total Aid		0.012**	0.013**		−0.001	−0.002
(billion USD)		(0.006)	(0.006)		(0.005)	(0.005)
Year FE			Y			Y
Constant	0.200***	0.282***	0.275***	0.762***	0.791***	0.849***
	(0.014)	(0.043)	(0.087)	(0.010)	(0.032)	(0.064)
Observations	780	771	771	780	771	771
R^2	0.093	0.215	0.244	0.056	0.106	0.156
Adjusted R^2	0.092	0.208	0.198	0.055	0.098	0.105

Note: *p<0.1; **p<0.05; ***p<0.01

a very small change.

The opposition coalition's vote-share appears to have a slightly greater, but no more robust, impact. Surprisingly, the opposition coalition appears to be more influential in organization fragmentation, rather than fragmentation among donor states. A one-standard-deviation change in opposition-party vote-share (11.8%) would increase organizational fragmentation by nearly 0.05. This is still a relatively small effect, but it is nonetheless interesting to consider that the opposition party may have more impact than the ruling party on the fragmentation of a bill. Overall, the data offer mixed results for the second hypothesis but strong results for the first. The differential dynamics between the two types of aid fragmentations will be interesting to explore in future research.

4.2 The Personal Vote

Finally, Table 3 provides strong evidence for Hypothesis 3. As previous work would suggest, the personal vote does invite particularist tendencies. When legislators are tempted to advertise their own individual successes, rather than the successes of the party or chamber, they are more likely to demand pet projects. Once again, these pet projects are translated into greater fragmentation.

In all models, and for both measures of fragmentation, the personal vote ranking is significantly and positively correlated with an increase in aid fragmentation. The value of the coefficient indicates that these results are much more powerful for recipient-country than organizational fragmentation. A one-unit increase in personal vote rank (which runs on a scale from 1 to 13) corresponds with a nearly half a standard-deviation increase in fragmentation. This lends further credence to the idea that the processes leading legislators to demand and receive particularistic benefits for themselves and their districts also lead to fragmentation in a foreign aid bill.

Table 3

	Dependent variable:					
	Organizational Fragmentation			Recipient-Country Fragmentation		
	(1)	(2)	(3)	(4)	(5)	(6)
Personal Vote	0.020***	0.007*	0.009**	0.018***	0.019***	0.017***
	(0.003)	(0.004)	(0.004)	(0.002)	(0.003)	(0.003)
Gov. Vote Share		−0.003*	−0.001		−0.003***	−0.005***
		(0.001)	(0.002)		(0.001)	(0.001)
Opp. Vote Share		−0.004***	−0.003***		−0.002	−0.002**
		(0.001)	(0.001)		(0.001)	(0.001)
Unified Gov.		−0.0003	−0.030		−0.014	0.010
		(0.033)	(0.034)		(0.027)	(0.028)
GDP (billion USD)		0.000***	0.000***		0.000	0.000
		(0.000)	(0.000)		(0.000)	(0.000)
GDP/capita (100,000 USD)		−0.00000	−0.00000**		0.00000***	0.00001***
		(0.00000)	(0.00000)		(0.00000)	(0.00000)
Total Aid (billion USD)		0.000	0.000		−0.000	−0.000
		(0.000)	(0.000)		(0.000)	(0.000)
Year FE			Y			Y
Constant	0.171***	0.496***	0.338**	0.714***	0.865***	0.941***
	(0.020)	(0.115)	(0.133)	(0.015)	(0.094)	(0.108)
Observations	531	512	512	531	512	512
R^2	0.078	0.214	0.261	0.109	0.156	0.202
Adjusted R^2	0.076	0.203	0.208	0.107	0.144	0.146

Note: *p<0.1; **p<0.05; ***p<0.01

4.3 Alternative Explanation: Presidential Democracy

The American politics literature has been grappling with the issue of bureaucratic fragmentation for decades. Although that research tends to focus mainly on domestic policy tools, it is still worth considering whether theories of general bureaucratic complexity can carry over into the realm of foreign policy. The bureaucratic politics literature has suggested some institutional factors that could have an impact on bureaucratic complexity. Specifically, much previous literature has suggested that the presidential institutions and separation of powers inherent in American democracy exacerbate the complexity of American bureaucracy. According to Wilson (1989), the constant tug-of-war between the executive and legislative branches in US government contrasts with parliamentary systems, in which government decision-making is more hierarchical and streamlined through a single process. Moe (1989) adds that "American public bureaucracy is not designed to be effective. The bureaucracy rises out of politics, and its design reflects the interests, strategies, and compromises of those who exercise political power" (267). Comparativist scholars of democratic institutions, such as Linz and Valenzuela (1994), argue that presidential systems tend to be constituted by a greater degree of deadlock than parliaments, due to confusion created by dual legitimacy and multiple veto points. Moe (1990) takes the argument a step further by pointing out the legislative branch's unique incentives to constrain the executive in a presidential system, due to differences in constituencies and interests.

Most of these theories of presidentialism and bureaucracy have faced relatively little empirical scrutiny. The empirical work that does exist generally focuses on the American political environment, with limited generalizability. Qualitative studies of fragmentation—mainly from scholars of administrative law—establish a connection between interbranch political conflict and fragmented policy implementation (e.g. Freeman and Rossi 2012, Biber 2011, Frankel 2010, Buzbee 2005).[14] Theories of divided government and bureaucratic fragmen-

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[14]Not all public administration scholars agree with this framework, however. For example, Marisam (2011) argues that what he calls "duplicative delegations" are a political accident, Stephenson (2011) has an informational explanation for the phenomemon, and Doran (2011) blames the congressional committee

tation are difficult to assess, as the offer little explanation of variation over time. These insights about US bureaucratic structure have become ubiquitous to studies of bureaucracy, but they have rarely been quantitatively tested.

One study that serves as asn exception is specific to the US case and follows along other theories laid out above. Farhang and Yaver (2016) find that the bureaucratic fragmentation of regulatory authority is one method that Congress uses to constrain the president from executing too much power. When several agencies exist that carry out the same regulatory function, they are more difficult for the executive branch to control, if only because it is difficult to determine which actors have the authority to do so. If anything, Farhang and Yaver's case of regulatory authority is an easy case for the interbranch conflict theory of bureaucratic fragmentation. Regulation is one of the unique powers of the executive branch, and Congress is limited in how it can otherwise constrain executive-branch regulators. Foreign aid,on the other hand, presents a more complicated story. Congress's power of the purse gives it unusual power over often-distributive policies like foreign aid spending. Unlike other forms of foreign policy, which can require interstate negotiation and give the president an edge, foreign aid is largely the domain of Congress (Milner and Tingley 2015). Therefore, it is worth testing whether divided party government, and institutionalized divided government, really has the impact on fragmentation that we think it might.

This long line of research on the causes of bureaucratic complexity from the American perspective provides a specific hypothesis about the variation in bureaucratic fragmentation among aid donor states. Assuming donors are in fact constrained by principal-agent problems between government branches, fragmentation should be higher in presidential democracies than parliamentary. Because parliamentary democracies do not have the same separation of powers as presidential systems, the interbranch dynamics described by the above authors should not be relevant. This theory offers a third hypothesis to test.

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system for what he calls "administrative redundancy." In the political science literature, Ting (2003) suggests that redundancy can be a rational response when political principals don't know the resolve or interests of their agents.

Mean Bureaucratic Fragmentation
in Presidential vs. Parliamentary Democracies
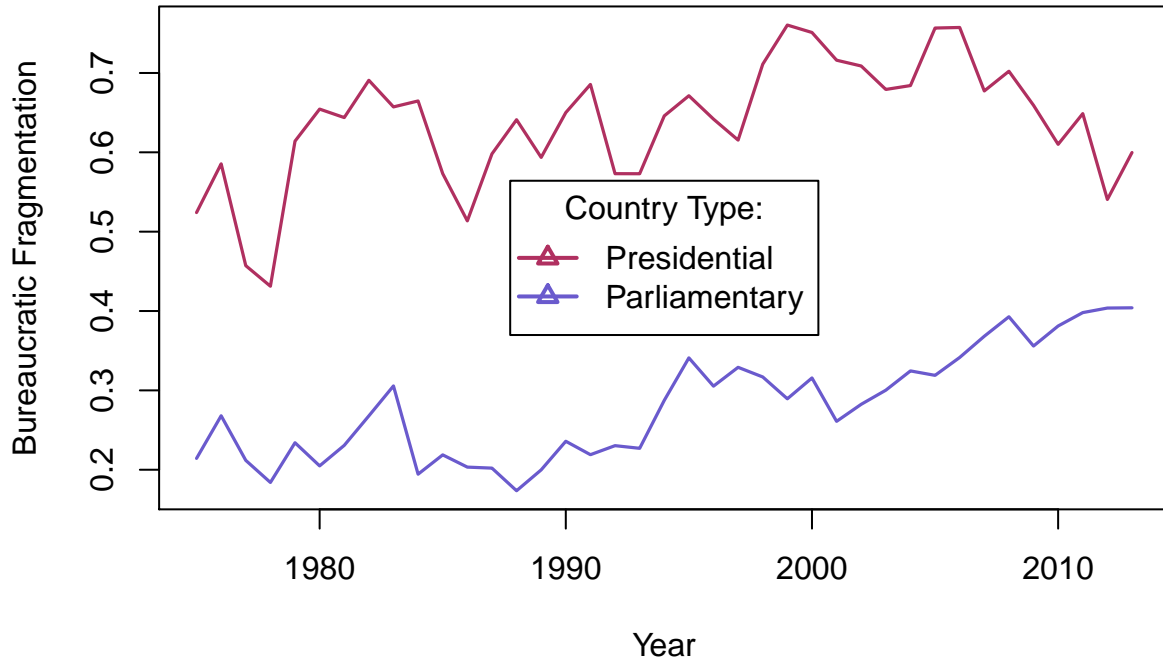
Figure 6

Hypothesis 4: Foreign aid will be more fragmented in presidential democracies than in parliamentary democracies.

To test the impact of presidentialism, I measure whether the given state is a parliamentary or presidential democracy, using the same dataset as above. If it is indeed the case that bureaucratic complexity is a product of interbranch conflict, then fragmentation should be higher in presidential democracies than parliamentary. The value "Presidential" is coded as a 1 if the state is a presidential democracy and 0 if it is not. An initial look at the data tentatively confirms the hypothesis. According to Figure 6 below, presidential democracies on the whole are more fragmented than parliamentary ones, although the gap between them is decreasing and the phenomenon is not consistent over time.

Data analysis confirms the suspicion that the binary relationship does not tell the whole

story. Table 4 shows the results of three linear models.[15] Model 1 reports a possible bivariate correlation between presidential institutions and aid fragmentation. The relationship is in the predicted direction, but it is not significantly distinct from zero.

The inclusion of a few controls in Models 2-3 puts these results further into question. Once the model accounts for time-varying political and economic indicators, presidential democracies appear in fact to create *less* fragmentation than parliamentary ones. The coefficient is negative and significant. It is also relatively high in the organizational fragmentation models (Models 2-3), with a switch in institutions corresponding to a 0.22 decrease in fragmentation. It is an open question why the results appear to be so different from what was expected. Further complicating things is the positive coefficient on the unified government variable. When the government's party controls all legislative houses, fragmentation further increases. Once again, this puts into question previous literature that has focused on US bureaucracy and considered fragmentation as a form of delegation constraint. The truth is more complicated. One potential explanation for these unexpected findings is simple data availability. The presidential democracy samples in this dataset are disproportionately developing countries with less experience in foreign aid delivery and reporting. Indeed, limiting the dataset to democracies that reported in every year of AidData's existence (in the Appendix) leads to a slight positive coefficient on presidential institutions, however it is not robust.

5   Discussion and Conclusion

Foreign aid fragmentation is an unintended byproduct of many democracies' policymaking processes. Electoral institutions play a large role in how foreign policy is made, by shaping the incentives of the rank-and-file legislators creating these policies. Once again, plurality systems increase aid fragmentation, while PR systems decrease it. Shifting to a PR electoral system decreases fragmentation by 0.15. As was the case before, this represents a little over

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[15]See the Appendix for other model specifications, including a Tobit model that reflects the censored nature of the data.

Table 4

| | Dependent variable: | | | | | |
| | Organizational Fragmentation | | | Recipient-Country Fragmentation | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Presidential	0.044	−0.221***	−0.246***	−0.025	−0.091***	−0.043
	(0.036)	(0.042)	(0.043)	(0.026)	(0.032)	(0.032)
Gov. Vote Share		−0.002*	−0.001		−0.003***	−0.0001
		(0.001)	(0.001)		(0.001)	(0.001)
Opp. Vote Share		−0.004***	−0.004***		−0.001	−0.0001
		(0.001)	(0.001)		(0.001)	(0.001)
Unified Gov.		0.055**	0.035		0.051***	0.042***
		(0.025)	(0.025)		(0.019)	(0.013)
GDP		0.0001***	0.0001***		0.00004***	0.00003***
(billion USD)		(0.00002)	(0.00002)		(0.00001)	(0.00001)
GDP/capita		−0.057	−0.251***		0.121***	−0.012
(100,000 USD)		(0.057)	(0.076)		(0.044)	(0.066)
Total Aid		0.004	0.004		−0.006	−0.005*
(billion USD)		(0.006)	(0.006)		(0.005)	(0.003)
Year FE			Y			Y
Constant	0.285***	0.526***	0.462***	0.813***	0.940***	0.851***
	(0.010)	(0.093)	(0.120)	(0.007)	(0.072)	(0.063)
Observations	780	753	753	780	753	455
R^2	0.002	0.232	0.276	0.001	0.081	0.183
Adjusted R^2	0.001	0.224	0.231	−0.0001	0.072	0.095

Note: *p<0.1; **p<0.05; ***p<0.01

half a standard deviation in the fragmentation variable, which is constrained to vary from 0 to 1. Although this in itself does not represent a large point estimate, it is also true that much of aid fragmentation is driven by economic factors, such as GDP and wealth, and by the total aid budget. Also, aid has changed over time, and the year that aid was awarded makes a large difference. Accounting for these factors more than doubles the point estimate, creating a shift of well over one standard deviation.

A surprisingly important factor in some forms of aid fragmentation is the vote-share of the main opposition coalition. Contrary to what might be expected, a higher opposition vote-share is correlated with less fragmentation. Hypothesis 2 predicted that a higher *majority-coalition* vote-share should decrease fragmentation. Although this relationship holds in many models, it is neither consistent nor robust. In contrast, the *opposition's* vote-share is consistently correlated with greater fragmentation. This puzzling finding becomes understandable under a more careful examination of the theory. The theory predicts that heterogeneity between legislators causes fragmentation. There is no reason to think that this wouldn't include heterogeneity within both parties. If the main opposition coalition is powerful, then it may be easier for its leadership to bargain with a single voting bloc. This makes it difficult for national leadership to induce a vote change in a minority-party legislator by offering a side payment. When the opposition is less unified, it becomes easier for legislative leadership to begin offering individual side payments to legislators' pet projects, to buy support. This results in a more fragmented budget. Regardless of party, when some legislators are unwilling to support their leadership, fragmentation should increase.

The conventional wisdom about bureaucracy, which presumes that it is largely a problem of separation-of-power systems, is incomplete in the case of foreign aid. Contrary to much previous thinking, parliamentary democracies are no better able to overcome bureaucratic problems than presidential ones, and they may in fact be worse. Other aspects of legislator incentives, such as the incentive to seek particularistic benefits, appear to play larger role in bureaucratic outcomes. What's more, bureaucratic structure changes over time, even when

electoral systems stay the same. Institutions alone are not enough to explain this within-country variation. Scholars focusing only on interbranch politics or partisan disagreements are missing an important part of the bureaucracy story. The size and shape of the executive branch can be just as dependent upon the legislature as the executive itself.

By shaping the bureaucracy, electoral institutions can have an effect on the final stage of policy implementation. This is clear in the case of foreign aid. As previous work has found, the effectiveness of foreign aid policy depends upon the bureaucratic institutions that carry out that policy. In turn, bureaucratic institutions are shaped, both by design and by accident, by legislatures. The incentives of legislators, therefore, can have unforeseen consequences on foreign policy outcomes. These incentives are shaped by the institutions that countries use to elect and control politicians. It remains to be seen how these indirect effects of legislative behavior compare to the direct efforts of legislators in the realm of foreign policy.

The importance of institutions in foreign policy should come as no surprise to those who study domestic institutions and war. There is a large and growing literature linking certain domestic institutions and the probability of attacking or being the target of attack. However, the domestic implications of foreign policy tools that are often used as substitutes for or complements to war, such as foreign aid, are often neglected. This is especially concerning given the normative importance of using diplomatic tools to prevent costly conflicts. An inefficient peaceful foreign policy may make military options seem that much more enticing. A better understanding of the way institutions can shape foreign policy *beyond* the battlefield is necessary in order to ensure that peaceful means are better used in the future.

6   Appendix

Country Lists

Countries in most limited dataset (consistent reporters):

- Australia
- Belgium
- Canada
- Switzerland
- FRG/Germany
- Denmark
- Finland
- France
- UK
- Japan
- Netherlands
- Norway
- Sweden
- USA

Countries in more open dataset (all democratic aid donors):

- Austria
- Australia
- Belgium
- Brazil
- Canada
- Switzerland
- Chile
- Colombia
- Cyprus
- Czech Rep.
- FRG/Germany
- Denmark
- Spain
- Finland
- France
- UK
- Greece
- Hungary
- Ireland
- India
- Iceland
- Italy
- Japan
- Korea
- Lithuania
- Luxembourg

- Latvia
- Nigeria
- Netherlands
- Norway
- New Zealand
- Poland
- Portugal
- Romania
- Sweden
- Slovenia
- Slovakia
- USA
- South Africa

Tobit for Limited Dataset Herfindahl DV (Horse Race)

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept):1	1.05	0.15	6.92	0.00
(Intercept):2	-1.45	0.04	-39.53	0.00
pres	-0.11	0.08	-1.34	0.18
pr	-0.25	0.04	-6.59	0.00
govvote	-0.01	0.00	-3.22	0.00
oppvote	-0.01	0.00	-7.12	0.00
allhouse	-0.14	0.04	-3.42	0.00
gdp	0.00	0.00	0.72	0.47
pcap	0.00	0.00	0.36	0.72
total.aid	0.00	0.00	3.89	0.00
Year FE	0.02	0.10	0.21	0.83

Tobit for All Democracies Dataset Herfindahl DV (Horse Race)

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept):1	0.65	0.16	4.00	0.00
(Intercept):2	-1.17	0.03	-36.67	0.00
pres	-0.37	0.06	-6.51	0.00
pr	-0.08	0.04	-2.06	0.04
govvote	-0.00	0.00	-2.02	0.04
oppvote	-0.01	0.00	-3.79	0.00
allhouse	-0.02	0.04	-0.46	0.64
gdp	0.00	0.00	4.34	0.00
pcap	-0.00	0.00	-2.51	0.01
total.aid	0.00	0.00	0.93	0.35
Year FE	-0.06	0.14	-0.42	0.67

Horse Race Models Using Sample of All Democracies

Table 5

	Dependent variable:		
	frag		
	(1)	(2)	(3)
pres	−0.023	−0.189***	−0.214***
	(0.035)	(0.037)	(0.038)
pluralty	0.168***	0.101***	0.096***
	(0.021)	(0.021)	(0.021)
govvote	−0.002	−0.002*	−0.001
	(0.001)	(0.001)	(0.001)
oppvote	−0.002*	−0.003***	−0.003***
	(0.001)	(0.001)	(0.001)
allhouse	−0.0003	−0.007	−0.027
	(0.027)	(0.024)	(0.025)
gdp		0.000***	0.000***
		(0.000)	(0.000)
pcap		0.00000	−0.00000*
		(0.00000)	(0.00000)
total.aid		0.000	0.000
		(0.000)	(0.000)
Year FE			Y
Constant	0.361***	0.423***	0.391***
	(0.101)	(0.094)	(0.120)
Observations	788	786	786
R^2	0.093	0.248	0.288
Adjusted R^2	0.087	0.240	0.244
Residual Std. Error	0.266 (df = 782)	0.242 (df = 777)	0.242 (df = 739)
F Statistic	16.008*** (df = 5; 782)	32.048*** (df = 8; 777)	6.502*** (df = 46; 739)

Note: *p<0.1; **p<0.05; ***p<0.01

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