Rev Int Organ
DOI 10.1007/s11558-017-9272-5

The politics of contract allocation in the World Bank

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Abstract Scholarship on informal politics in multilateral aid organizations investigates all stages of the allocation process - from project identification to aid disbursement and project evaluation. Yet, one area remains almost entirely overlooked in the literature - allocation of aid-financed contracts. This article aims to address the shortcoming of the existing research and develops a theory of contract allocation in a prominent multilateral aid organization – the World Bank. The theoretical argument explores the relationship between formal procurement arrangements and recipients' control over contract allocation, and the role of this relationship in explaining patterns of contract allocation. My empirical analyses using data on the World Bank's contracts provide evidence of recipients' ability to allocate contracts in favor of domestic companies, as well as bilateral aid donors.

Keywords World Bank · Multilateral aid · Procurement

JEL classifications F35 · F53 · F55 · F59

Existing studies of foreign aid politics have followed the spirit of Lasswell's succinct description of politics - it is about "who gets what, when, and how" (Lasswell 1936). Research has traced aid flows from donor governments to recipient countries, directly or via multilateral organizations, and examined determinants of these flows in aggregate terms as well as disaggregated by sector, objective and other criteria. Furthermore, scholars of bilateral aid recognize that aid flows do not stop once they reach the recipient, because some share of bilateral aid can be tied to purchases of goods or services from

Electronic supplementary material The online version of this article (doi:10.1007/s11558-017-9272-5) contains supplementary material, which is available to authorized users.

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Published online: 06 March 2017

donors' companies (Morrissey 1993; Younas 2008). Therefore, donor countries may receive benefits of such assistance programs in the form of contracts funded by foreign aid.

Multilateral aid flows, however, have been treated differently. While various stages of multilateral financial assistance have received a significant amount of attention, the final stage – the contract allocation process – remains largely overlooked. Yet, donor governments pay significant attention to the inflow of contracts funded by multilateral aid to their economies due to domestic political and economic considerations. Similarly, recipient governments have incentives to use these resources to secure domestic or international benefits. Recipients may seek to retain domestically as much foreign assistance as possible to provide support to their domestic constituents, both for political and economic reasons. At the same time, recipients may divert some aid to strengthen economic or political links with other countries.

This study focuses on the contract allocation stage of multilateral aid and addresses the following question: where does multilateral aid ultimately flow? Specifically, which countries benefit from economic opportunities in the form of contracts awarded through multilateral aid organization, such as the World Bank? I argue that recipient countries stand to benefit from these opportunities the most. Recipient governments' powerful incentives to satisfy domestic constituents and important international partners, combined with these governments' key role in administering the procurement process, should result in a distribution of contracts that favors domestic companies, as well as companies from countries that are important trading partners or donors of bilateral aid.

The article proceeds as follows. First, I overview the literature on aid allocation and point out a gap in this research – existing studies overlook procurement as the final stage of multilateral development assistance. Second, I highlight some of the key developments in procurement policies at the World Bank, the world's largest development aid organization. Insights from this discussion indicate that both donor and recipient governments prefer contract allocation outcomes that favor their domestic companies. At the same time, I argue that procurement rules enable recipient governments to bias the allocation process to generate private benefits, i.e., to increase the share of contracts awarded to domestic suppliers and suppliers from countries that provide substantial amounts of bilateral aid. I then describe my dataset, which relies on information on World Bank contract allocations over the period between 1992 and 2011. My empirical tests provide evidence of recipients' ability to favor their domestic companies when allocating aid-funded contracts. I also show that procurement benefits recipients' bilateral aid donors. Finally, I find that the World Bank's procurement rules affect contract allocation outcomes, but with significant limitations, as recipients demonstrate their ability to adjust to the formal requirements, while safeguarding their interests.

1 Procurement: The overlooked stage of the aid allocation process

The process of aid allocation has been extensively analyzed in the existing aid research. Donor country preferences and relations with multilateral and bilateral recipients influence the flow of aid from donor countries to multilateral organizations and directly to recipient governments (e.g. Alesina and Dollar 2000; Dreher et al. 2011; McLean 2015). The flow of aid from multilateral organizations to recipient governments is less politicized; however, it still displays some of the biases of bilateral aid allocations (e.g.,

Neumayer 2003a, b; Kilby 2006, 2011; Schneider and Tobin 2013). Previous studies of prominent international financial institutions, such as the IMF and the World Bank, suggest that powerful member governments exercise influence over these multilateral organizations' decisions in ways that are not consistent with formal rules (Schoultz 1982; Thacker 1999; Stone 2002, 2004, 2008, 2011; Nielson and Tierney 2003; Faini and Grilli 2004; Copelovitch 2010). This literature, however, has largely overlooked what happens with financial assistance once it has been committed to projects financed by multilateral organizations. In practice, of course, before project implementation can begin, recipient governments need to procure required goods and services to make project implementation possible. Therefore, development aid enters its final allocation stage when recipient governments award contracts to suppliers of goods and services.

This final stage of the aid allocation process has received some attention in the research on bilateral aid. Specifically, studies of aid tying indicate that donor governments may seek to benefit their domestic companies by tying their bilateral aid disbursements to subsequent purchases of goods and services from donor countries' companies (e.g., Morrissey 1993; Michaelowa 1997; Younas 2008). The practice of formal tying has declined in recent years: in 2009, the share of untied aid in donors' bilateral aid allocations has reached 60%, up from the average of 30% in 2000, according to OECD data. While formal aid tying becomes a less common practice, there is still an informal expectation that recipients will purchase goods or services from donor country companies to generate good will in order to sustain bilateral aid flows in the future.

Previous research identifies this practice of (formal or informal) aid tying as a key difference between bilateral and multilateral aid flows. In particular, Milner (2006) points out that multilateral aid cannot be tied to purchases of goods or services from a given donor's companies at the contract allocation stage, unlike bilateral aid. Since countries pool their resources in multilateral organizations, individual donors lose the ability to advance their economic interests through this type of financial assistance. Therefore, donor interests appear to be irrelevant for contract allocation.

Finally, recipient governments' interests and behavior at the contract allocation stage have received even less attention in the literature than donor governments'. Studies of government procurement are most informative in this regard, and they indicate that governments have incentives to discriminate against foreign bidders. While governments usually recognize the benefit of relying on transparent and open competitive bidding process, efficiency gains alone may not be sufficient to counter governments' powerful incentives to favor domestic companies in the procurement process. When governments allocate contracts domestically, the share of profits that remain at home increases (Branco 1994; Vagstad 1995). In exchange for greater profits, domestic beneficiaries are likely to provide financial and/or political support for the incumbent government in democratic countries (Martin et al. 1999; Rickard and Kono 2013). Similarly, in autocratic regimes, economic elites may weaken their support for the government that consistently fails to award lucrative contracts domestically.

This evidence of recipient governments' home bias is not sufficient to conclude that contracts funded by multilateral aid organizations will display similar allocation patterns. Both donors and recipients may have interests in securing a larger share of contracts for their domestic companies. However, their pursuit of this objective takes place within the institutional framework of multilateral aid organizations. How do

formal rules and procedures structure contract allocation? Do organizations succeed in constraining the procurement process to the point where efficiency is the main determinant of contract allocation?

1.1 Rules structuring contract allocation: Historical development of key procurement provisions in the World Bank

Before presenting my theoretical argument, I briefly discuss the emergence and change of procurement rules in the World Bank. This multilateral aid organization is the substantive focus of the article, and its contracts serve as a source of information for my empirical analysis. Equally important is the fact that the evolution of the World Bank's procurement process is well-documented, which enables a more informed analysis of the organization's procurement rules and their outcomes.

Initially, the Bank did not have detailed procurement procedures and did not require international competitive bidding as the main contract award method. Many of the first loans intended to assist in rebuilding European economies after World War II (e.g., in 1947 the Bank provided loans to France, Netherlands, Denmark, and Luxembourg). The only industrialized country that did not suffer from economic devastation and, hence, could offer goods and services required for project implementation was the US. Therefore, borrowers had little choice but to place their orders with US companies.

Soon after the initial reconstruction loans to Europe, the Bank began receiving applications for a different type of lending – i.e., a development loan. Chile was the first country to obtain such loans in 1948 (one for the Power and Irrigation Project, and the other for the Agricultural Machinery Project) and the first recipient in South America. More countries in this and other regions of the world followed starting in 1949. The 1950 annual report reflected the high growth rate of the Bank's portfolio: the total value of the Bank's loans passed the $1 billion mark (World Bank 2005: 36). At this point, the Bank sought to implement measures to improve the oversight of its projects: project appraisal and international competitive bidding (ICB). In 1951, the Bank adopted policy on international competitive bidding. Initially, the ICB process was open to companies from all countries, but within five years the policy changed to restrict eligibility to companies from member countries and Switzerland. At that point, the US and recovering economies of Western European countries became the beneficiaries of such a restriction, as mainly companies from these countries were competitive internationally and, hence, capable of winning contract awards. This restriction coupled with the largest donors' economic advantage ensured that by the 1960s, the share of all goods and services contracts awarded to donor countries' companies surpassed 60%. Developing countries viewed this substantial bias in favor of donors' companies as detrimental to their economic development and efforts to industrialize. Recipients' pressure led to another policy change: in 1966, the Bank introduced a "domestic preference" clause, which gave recipient governments the ability to give a slightly higher priority to their domestic companies. However, this change in rules did not have a significant effect on the distribution of contracts because competitiveness of recipients' companies lagged far behind that of their counterparts in developed countries.

A more substantial change took place in the 1980s, when the Bank adopted new procurement rules that included alternatives to ICB, the most important of which was national competitive bidding, or NCB. This procurement method allows recipient

governments to limit advertising and bidding to its domestic companies, thereby eliminating foreign competition. The argument in favor of NCB centers on greater efficiency of this approach when contracts are fairly small. The Bank sets thresholds on contract size, above which contracts must go through ICB, rather than NCB. Therefore, this adjustment of procurement rules accommodated recipient governments by allowing them to keep a certain share of contracts at home. At the same time, efficiency of resource allocation remained a key institutional objective, since much of the World Bank's lending was still allocated via ICB contracting.

In addition, the World Bank gradually relaxed its strict focus on using the lowest price as the determinant of the winning bid. Recipient governments' application of procurement guidelines may allow some room for considerations unrelated to prices: "in practice the specific procurement rules and procedures to be followed in the implementation of a project depend on the circumstances of the particular case" (World Bank 2014: 1–2). In fact, this shift away from decision-making based on the lowest price is even more explicit in the most recent reform of the contract allocation process, which went into effect in 2016. One of the key changes is adoption of a range of criteria as determinants of contract award: the Bank will now allow award decisions to use additional criteria, such as sustainability and quality, alongside price.

These recent changes in procurement rules follow a gradual shift of competitiveness among developed and rapidly developing economies. Figure 1 illustrates this transition. The dominant position of suppliers from industrialized countries guaranteed that they won most of the contracts, until developing countries, such as China and Mexico, rapidly improved their international competitiveness and challenged the dominance of Western companies as World Bank suppliers. In the 2000s, developing countries' suppliers accounted for approximately ¾ of total contract flows (Zhang and Gutman

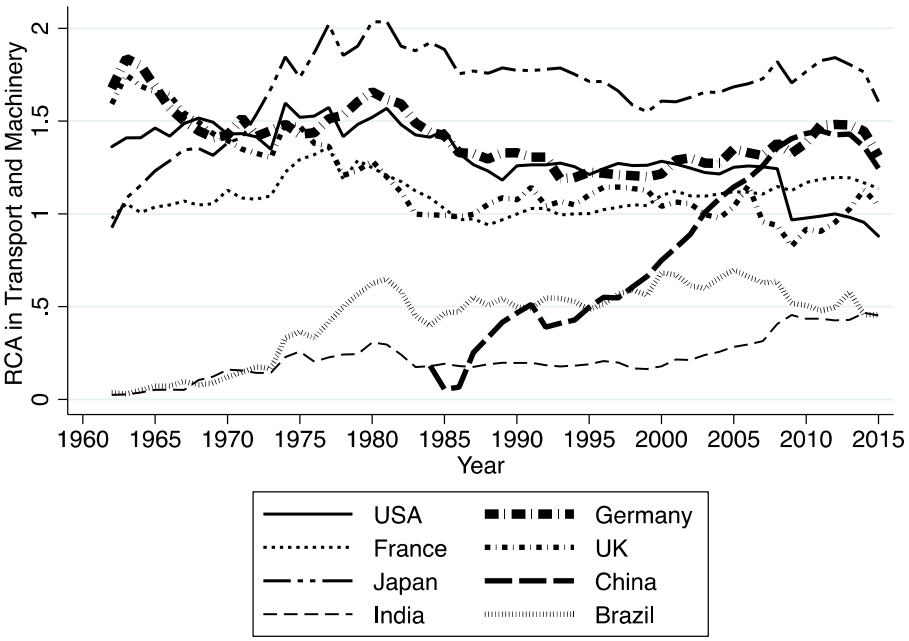

Fig. 1 Competitiveness in the machinery and transport sector of top contract recipients

2015:3). Clearly, companies from the US and other developed countries have been losing their share of World Bank contracts as their ability to compete mainly on price has been surpassed by China and other developing countries. Yet, none of the changes to the procurement process appear to rectify the loss of competitive edge by the largest shareholders, especially the US. Recipient governments also remain fully in charge of the contract award process, even though the World Bank reviews such awards with great scrutiny, especially for sizeable contracts. The following section focuses on the exercise of this institutional power, which developing countries' governments received as a result of institutional design choices made in the early days of the Bank's existence. I argue, and then show empirically, that recipients use this power to benefit their domestic companies and maintain relationships with their important bilateral aid donors.

1.2 A theory of aid-funded contract allocation

Multilateral aid organizations emerge to facilitate cooperation in the area of economic development among governments that may sometimes have incentives to act in ways detrimental to the shared interest. Hence, rules and procedures are vital for reaching agreements and implementing them. In particular, in the area of contract allocation, multilateral aid organizations adopt and enforce a set of formal procurement requirements and rules. These rules aim to use scarce aid resources in the most effective and efficient way possible through the contract allocation process and to constrain member governments in their pursuit of private benefits for their domestic companies, which can undermine the shared goal of promoting economic development in recipient countries. This raises the following question: how do governments' preferences and procurement rules interact to produce contract allocation outcomes that we observe?

The key objective of the procurement process is to obtain goods and services required for project implementation and make the most efficient use of resources allocated by the multilateral aid organization. All relevant actors – donors, recipients and the organization's staff – share the interest in achieving this objective. At the same time, donor and recipient governments can experience pressure from domestic economic constituents that seek to take advantage of business opportunities resulting from contract allocation. Domestic companies' success in securing aid-funded contracts, then, constitutes a private benefit of the procurement process to countries receiving such contracts. These benefits for domestic economic constituents and governments' efforts to increase the flow of benefits to domestic companies mean that contract allocation is a political, rather than purely efficiency-driven, process.

Contract allocation can be viewed as a bargaining interaction between the recipient government and the multilateral aid organization's staff. The latter represents the organization's interests and serves as an agent of donor governments. The recipient's preferred procurement outcome would be to retain aid-funded project resources domestically by awarding all contracts to recipient country producers. Deviations from this preferred policy would only occur when domestic companies did not produce goods or supply services required for project implementation. In this case, the recipient government would have no choice but seek suppliers externally. Other countries, including major donors, have a similarly straightforward preference over procurement outcomes: their private benefits from aid-funded projects increase as their domestic producers receive more contracts through these projects. Only when these countries do

not have any production in the relevant economic sector would they be indifferent over contract allocations. The multilateral aid organization that negotiates with the recipient government and monitors its compliance with the agreement does not have a preference over which country receives a contract. However, the World Bank seeks to provide a bargaining solution that would maintain its reputation for unbiased and efficient use of resources, as well as donors' and recipients' willingness to use it as a multilateral channel for development assistance. The organization needs to balance the two sets of contract allocation preferences carefully to prevent countries from turning to other aid channels. Previous research suggests, for instance, that donor countries may shift their aid allocations to other organizations when the donors perceive that a given organization's use of resources does not align with their preferences (McLean 2012; Schneider and Tobin 2016). Similarly, recipients may turn to other sources of aid, either multilateral or bilateral. The bilateral option may be particularly salient in the recent years due to the rise of China as an ambitious new donor, which adheres to the principle of non-interference in recipients' internal affairs and disburses aid more quickly than traditional donors, while requiring less documentation and reporting (Dreher and Fuchs 2015; Strange et al. 2015).

I argue that, for institutional rules that structure procurement to serve as a successful solution to this bargaining problem, they need to deliver two outcomes. First, procurement rules need to provide enough private benefits from procurement to donor and recipient countries to prevent them from turning to outside options. Second, the multilateral aid organization must adhere to its economic development mandate and use its resources efficiently. For instance, the World Bank is required to ensure that its lending supports only approved project activities and "with due attention to considerations of economy and efficiency," according to Section 5 of Article III of the Articles of Agreement.

As the brief historical overview of the World Bank's procurement indicated, recipient governments have controlled procurement from the day the World Bank approved its first loan. At the same time, the Bank closely monitors the government's activities, reviews the government's adherence to procurement rules and procedures throughout the period of project implementation and negotiates with the recipient government. In particular, the government is required to develop a procurement plan, and the Bank must agree to the proposed individual contracts that constitute the plan. The two sides also need to reach an agreement regarding the chosen contract allocation method. These negotiations take place before the Bank approves the loan. Once implementation begins, the recipient government is expected to follow the procurement plan very closely, and the Bank monitors and verifies compliance. When companies submit their bids for advertised contracts, the government selects the winning bid, which is subject to review by the Bank.

This substantial attention to procurement supervision is due to the Bank's understanding that recipient governments have a powerful incentive to favor domestic companies in contract allocation, which would reduce efficiency in project implementation. At the center of the Bank's approach to procurement is international competitive bidding (ICB), which is the Bank's preferred contract allocation method. The main objective of implementing these procedures is to enable the most competitive companies from any eligible countries to receive contracts for providing services and goods to the recipient country in order to make project implementation as efficient as possible. Consequently, the World Bank and a number of other multilateral organizations require

the use of the ICB process with a few exceptions.[1] ICB is a set of conditions that aid recipients must satisfy in order to make the procurement process more open and transparent. To achieve this goal, ICB requires recipient governments to allow companies from all eligible countries to bid on recipients' orders of goods, works and services, and to advertise available contract opportunities both nationally and internationally. One of the main results of these requirements is a predictable set of procurement expectations and reduced transaction costs – i.e. conditions that are advantageous to competitive companies.

These procurement rules, however, are more effective at constraining donor governments than recipients in their efforts to bias procurement in favor of their domestic companies. Donor governments are not directly involved in contract allocation, whereas recipient governments are. Moreover, when a country receives assistance from the World Bank for project implementation, its government is in charge of the implementation, as well as the process of contract bidding and award. The World Bank requires its borrowers to follow its procurement guidelines, but as the previous discussion indicates, recipient governments may still enjoy some leeway for the application of the guidelines. In particular, when it comes to recipients' domestic companies, the World Bank's rules permit special treatment. Although the procurement guidelines generally aim to create a level playing field for all bidders from all eligible countries by providing them with equal information and equal participation opportunities, the World Bank acknowledges its "interest in encouraging the development of domestic contracting and manufacturing industries in the Borrowing country" (World Bank 2014, 2). Therefore, procurement rules allow borrowing, or recipient, governments to give a margin of preference to local suppliers of goods and services, and as Table 1 suggests, recipients appear to take advantage of these rules. Specifically, the top three countries in terms of the total number of ICB contract awards are recipients (China, India and Brazil).

While the "domestic preference" clause enables favorable contract allocation through ICB, the other procurement method – NCB – allows recipient governments to shield domestic suppliers from foreign competition completely when it comes to smaller contracts. Whether a contract will go through international or national competitive bidding depends on the estimated size of the contract relative to the World Bank's ICB threshold. The World Bank determines an ICB threshold for each recipient country, or an estimated value above which a contract must be subject to ICB. The threshold value for goods contracts ranges from $100,000 (e.g., Cambodia and Guyana) to $5,000,000 (Brazil).[2] Contracts below these amounts are awarded domestically.

[1] Regional development banks, for instance, rely on international competitive bidding. AfDB states that "An "Open Competitive Bidding (OCB)" process with wide and free bidding notification, and no restriction on participation of eligible bidders should normally be used" (AFDB 2015: 18). Asian Development Bank has a similar requirement: "Open competition is the basis for efficient public procurement… In most cases, international competitive bidding (ICB), properly administered, and with the allowance for preferences for domestically manufactured goods and, where appropriate, for domestic contractors for works under prescribed conditions is the most appropriate method" (ADB 2015: 2). The IADB and EBRD follow nearly identical procurement rules, which emphasize ICB as the main procurement method.

[2] The criteria for calculating the ICB threshold include foreign companies' interest in a given market and the size of the market. See the World Bank's Procurement Policies and Procedures for more detail (http://go.worldbank.org/9P6WS4P5E1).

Table 1 Largest contract recipients of ICB contracts (based on the total number of contract awards)

Country (recipients included)	# of received contracts	Share of ICB total	Country (recipients excluded)	# of received contracts	Share of ICB total
China	9884	13.23	France	2709	10.51
India	5129	6.87	Germany	2489	9.65
Brazil	3274	4.38	UK	2239	8.68
France	2709	3.63	US	2010	7.8
Germany	2489	3.33	Japan	1731	6.71
Mexico	2438	3.26	China	1574	6.11
UK	2239	3.00	Italy	1293	5.02
US	2010	2.69	India	1229	4.77
All other developing	32,388	43.36	All other developing	3569	13.84
All other developed	12,138	16.25	All other developed	6938	26.91

Finally, the World Bank's procurement guidelines create some room for considerations unrelated to prices. One such area is technical specifications of goods and services put up for bid. The recipient prepares the specifications, examines all bids for compliance and rejects non-compliant bids. While the Bank requires recipients to rely on international standards in their bid specifications "as far as possible," the rules also allow recipients to use national standards when "such international standards are unavailable or are inappropriate" without any clear indication of what these caveats mean in practice (World Bank 2014: 15). Recipients also evaluate manufacturers on their financial capability, as well as experience and technical capacity.[3]

Taken together, these procurement requirements provide recipient governments with opportunities to apply the Bank's rules in a way that favors governments' preferred suppliers. Such suppliers can be recipients' domestic companies. At the same time, the focus on technical and financial aspects of bids indicate that recipients may seek to create favorable bidding conditions for suppliers that may lose out on price, but can offer higher-quality goods and services. As the historical overview pointed out, companies from industrialized countries find it increasingly difficult to compete solely on price against companies from rapidly industrializing economies, such as China. Donor governments, consequently, pressured for the inclusion of other criteria in contract allocation decisions. While the World Bank's formal rules have only changed in 2016, recipients' use of existing vague clauses in procurement rules enabled the recipients to favor companies from some industrialized countries. Contract allocation outcomes appear to reflect this favorable treatment: after recipients are dropped from the sample, developed countries (France, Germany and the UK) emerge as top contract recipients, according to Table 1. Governments receiving multilateral aid, in turn, benefit from discriminating in favor of developed countries' companies through bilateral relationships with the governments of these countries.

[3] Detailed information on the World Bank's policies regarding procurement of goods and services is available in the World Bank's Standard Bidding Document for Procurement of Goods, and Standard Bidding Document for Procurement of Services (http://www.worldbank.org/en/projects-operations/products-and-services/brief/procurement-policies-and-guidance#standarddocuments).

Developed countries may use a variety of instruments to incentivize recipient governments to offer special treatment to developed countries' companies. This point is illustrated by the testimony given by a former Treasury Department and National Security Council official Benjamin Leo in the Subcommittee on International Monetary Policy and Trade of the Committee on Financial Services at the US House of Representatives: "there is a very strong role that the U.S. Government can play from a commercial advocacy side. Whether it is an [Multilateral Development Bank] project that you are bidding for or some other type of contract, in certain circumstances, in particular an experience that I had in Nigeria, I was able to see how powerful it could be. And it was not necessarily, or it was not at all, an issue of undue influence. It was more that when the U.S. Government got involved, it was to stress that we needed transparency, that we needed a competitive environment" (US House 2011: 19). Foreign aid research has identified bilateral aid as a foreign policy instrument frequently used to secure recipients' cooperation. For instance, developing countries that assume temporary membership in the UN Security Council receive more bilateral aid (Kuziemko and Werker 2006). UN General Assembly voting is swayed by increased aid inflows (Dreher et al. 2008; Carter and Stone 2015). Bilateral aid also helps donor governments to secure recipients' support in elections to executive boards of international organizations (Vreeland 2011). Therefore, aid-funded contract allocation can be expected to show evidence of bilateral donors' influence as well.

In sum, there are theoretical reasons to believe that recipient governments' preferences over contract allocation may encourage procurement bias in favor of domestic companies. Similarly, bilateral donors may incentivize their recipients to offer special treatment to the donors' companies. At the same time, the World Bank's procurement rules structure aid-funded contract allocation and, hence, patterns of aid allocation should reflect the influence of formal rules. Specifically, donor governments do not participate in the procurement process; hence, their preferences are unlikely to affect contract allocation. More competitive companies, on the other hand, should be in a strong position to win contracts, all else being equal. Whether multilateral aid does ultimately flow to recipients, their bilateral donors and countries with highly competitive companies is an empirical question to be addressed in the next section.

2 Data and measurement

There are currently very few studies that investigate procurement (Miyagiwa 1991; Trionfetti 2000; Rickard and Kono 2013). All of these studies, however, focus on public procurement financed by governments themselves, rather than procurement financed by multilateral aid organizations. Therefore, this article is the first effort to conduct an empirical analysis of contract allocation in a multilateral aid organization.

The source of data on contract awards is the World Bank's Contract Awards Database.[4] The database provides information on major contracts awarded through Bank-financed projects and reviewed by the World Bank staff. The database makes contract information available for projects awarded between 1992 and 2011. The

[4] The database can be found at http://go.worldbank.org/GM7GBOVGS0.

Contract Awards database provides detailed information about included contract awards, such as the contractor, project country, project sector, contract signing date, procurement method and type, and contract amount. There are two procurement groups: consultants, and goods and services. The empirical focus of this article is on aid-funded purchases of goods and services.

The theoretical expectations formulated in the previous section require data on bids submitted for each contract and information on which bidding country won the contract award. Therefore, the unit of observation in the dataset is the contract bid. In addition to this contract- and bid-specific information available from the World Bank's Contract Awards Database, I collected data on aid recipient country and bidder country characteristics: the World Bank's database identifies the supplier country (i.e., the bidder country that won the contract), as well as up to four bidder countries. This information allows me to include all interested bidder countries for models of contract allocation.[5] Consequently, my dataset has information on 155,596 contracts, which results in 194,933 contract bid observations.

2.1 Dependent variable

Using information available in this database, I constructed a binary dependent variable, *Contract award*. This measure that takes the value of one when a bidder from a given country is awarded a contract, and zero otherwise.[6] I limit my analysis to ICB contracts due to the theoretical focus of this article. To identify ICB contracts, I rely on a dummy variable, *International Competitive Bidding*, which takes the value of one if this most common procurement method was used, and zero otherwise. 55% of all contracts in my dataset are awarded through this process. The remaining contracts are allocated either through National Competitive Bidding (32% of contract awards)[7] or other, more complex, but fairly rare, procurement methods, such as Quality and Cost-Based Selection, and International Shopping.

2.2 Main independent variables

I first construct a measure that reflects the key requirement of the World Bank's procurement rules. Specifically, the Bank's rules emphasize "the need for economy and efficiency in the implementation of the project" (World Bank 2011: 2), which suggests that countries with highly competitive companies should be in the best

[5] An alternative approach is to include all countries as potential bidders. However, a shortcoming of this approach is that it introduces a large number of "irrelevant" bidder countries, i.e., countries that did not indicate their interest in receiving a contract by submitting a bid, and hence their probability of winning a contract is zero.

[6] The appendix provides summary statistics and data sources for all variables.

[7] According to the World Bank's procurement guidelines, "NCB may be the most appropriate method of procurement where foreign bidders are not expected to be interested because (a) of the size and value of the contract, (b) works are scattered geographically or spread over time, (c) works are labor intensive, or (d) the goods, works, and non-consulting services are available locally at prices below the international market. NCB procedures may also be used where the advantages of ICB are clearly outweighed by the administrative or financial burden involved" (World Bank 2014: 27–28).

position to receive contract awards, all else being equal. Therefore, I create a measure of competitiveness for bidding countries.

Competitiveness To examine the effect of competitiveness on contract awards, I rely on a measure of revealed comparative advantage (RCA) in the transport and machinery sector (SITC[8] codes starting with 7).[9] While this is an imperfect proxy, because not all projects require purchases of goods and services in this sector (e.g., projects in the public administration or finance sectors), overall this economic sector can be expected to benefit the most from procurement needs of World Bank-funded projects. I construct the widely-used Balassa measure of comparative advantage: the RCA of country j in the trade of product i is represented by the product's share in the country's exports relative to the product's share in world exports (Balassa 1965). In other words, if X_{ij} is the value of country j's exports of product i and X_{tj} is the country's total exports, then its RCA index is:

$$RCA_{ij} = \frac{X_{ij}/X_{tj}}{X_{iw}/X_{tw}}, \text{where subscript } w \text{ denotes export values for the world.}$$

Recipient as bidder dummy This variable is instrumental for testing the effect of recipients' incentives to give preferential treatment to domestic companies. This indicator represents the cases when a bid is submitted by a company located in the country, which is the aid recipient. This measure gauges the recipient government's exercise of its control over the procurement process in order to benefit its domestic companies. The variable takes the value of one if a contract bid is submitted by the recipient's domestic company, and zero otherwise. I only code this indicator for contracts awarded through ICB. Recipients' companies win most of contract bids: 65% of ICB contracts in my dataset were awarded domestically.

Aid/GDP I construct a bilateral aid variable as a share of the recipient's GDP to capture incentives that potential supplier countries can provide to the recipient in exchange for favorable procurement decisions. There should be a positive relationship between bilateral aid disbursements and the likelihood of winning a contract from the recipient if this economic incentive indeed affects the recipient government's decision-making.

2.3 Control variables

I include several additional explanatory variables in the models of contract allocation based on the insights provided by the empirical literature on foreign aid and international trade. First, three economic variables gauge the economic capacity of a bidding country: countries with better capacity should be more likely to receive contracts. Also, developed economies may be more likely to produce complex equipment and

[8] Standard International Trade Classification.
[9] The sectors are based on the SITC categories: http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=28.

machinery required for project implementation than recipient countries. In cases like that, the recipient should have no incentive to bias procurement outcomes since no domestic companies can benefit from these contract opportunities. Hence, these economic variables should be positively correlated with contract allocation. The economic variables are: *GDP per capita* is a country's per capita GDP, measured in constant 2005 USD and logged; *GDP growth* is a country's annual rate of GDP growth; and *Trade openness* is a sum of exports and imports of a given country, divided by its GDP.

Second, I control for a variety of existing economic and political links between bidders and recipients. Specifically, I include two trade variables: *Bidder's exports to recipient* is the sum of the bidder's exports to the aid recipient country (logged); and *Bidder's imports from recipient* is the sum of the bidder's imports from the recipient country (logged). Political closeness between the two countries is gauged with three variables. The first is *Ideal point distance,* which measures the similarity of voting patterns in the United Nations General Assembly. The variable is constructed using information on s-scores between the bidder and the recipient country in a given year and represents the absolute distance in the countries' foreign policy positions. The second variable is *Alliance,* a binary indicator, which takes the value of one if the bidder and recipient countries are part of a military alliance, and zero otherwise. Finally, *Joint democracy* is a dummy variable, which captures the similarity of political regimes in the recipient and bidder countries. The variable takes the value of one if both countries have Polity2 scores of at least 7, and zero otherwise.

Third, I control for the effect of geographical factors on contract awards. *Distance* is the logged distance (in km) between the capitals of the bidding country and the recipient. *Same subregion* is a dummy variable, which controls for potential preferences to allocate contracts to the nearest neighbors to build good political relations or take advantage of close trade links. Hence, this measure indicates whether or not the recipient and bidder countries are located in the same geographic subregion.[10]

Finally, I use information on non-economic bidder characteristics to gauge their effect on aid-funded procurement. I construct a measure to capture informal influence that the World Bank's largest shareholder, the US, may exercise over contract allocation. *U.S. as bidder* takes the value of one if a bidder is an American company, and zero otherwise. A positive relationship between the US origin of a bidding company and its likelihood of obtaining a contract would serve as evidence of the donor government's willingness and ability to pressure the organization and its aid recipients to treat American companies more favorably than other bidders. Another bidder characteristic included in the analysis is its level of corruption. One of the Bank's concerns in the procurement process is to ensure that its assistance is not misused; therefore, the Bank's rules seek to protect contract bidding and award from corrupt or fraudulent practices. I rely on a measure of corruption, *Corruption index,* which takes values from 0 (most corrupt countries) to 6 (least corrupt countries) and its primary focus is on "actual or potential corruption in the form of excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and

[10] The region of Africa, for instance, has five subregions: Eastern, Middle, Northern, Southern and Western Africa.

business" (PRS Group 2014, 4–5).[11] Companies from countries with better reputations should be more successful in the bidding process. Or, at the minimum, countries with worse reputations for corruption should not be more likely to receive contracts.

3 Empirical results

Table 2 reports results of procurement models that analyze allocation of ICB contracts. The dependent variable is a binary indicator that codes whether a given bidder received a contract; therefore, I specify four logit models with standard errors clustered by recipient. Three of these models include all bidders, while the fourth set of results is restricted to the sample of non-recipient bidders.

To summarize the main findings briefly, I find strong empirical evidence of recipients' favorable treatment of domestic companies. In addition, procurement outcomes benefit companies from donor countries that allocate substantial amounts of bilateral aid to recipients in charge of contract allocation. Finally, formal rules structuring the contract allocation process appear to matter but with certain limitations. Specifically, highly competitive bidders are more likely to win IDA-funded contracts, but do not appear to enjoy the same advantage in the IBRD-funded procurement process.

Perhaps the strongest piece of empirical evidence in support of my theoretical argument is the positive and statistically significant effect of the *Recipient as bidder* dummy across all specifications reported in Table 2. This indicates that recipients take advantage of their control over the ICB process to ensure that domestic bidders benefit from World Bank-funded contract opportunities. This variable is significant even while controlling for bidders' competitiveness levels, which means that the finding cannot be attributed entirely to recipient companies' ability to put forth better offers than their foreign competitors. All specifications in Table 2 also control for the level of the bidder's economic development; therefore, the bias in favor of recipient countries' companies is likely not due to their advanced production capabilities. In substantive terms, the effect of the *Recipient as bidder* dummy is significant as well. Using estimates from the first model in Table 2, and holding all other regressors fixed at their means, I calculate predicted probability of contract award: the probability of a bidder from a non-recipient country winning a given contract is .48, compared to .9 for a recipient country's company. This finding remains unaffected when I restrict analysis to IBRD-funded contracts (model 2) or IDA-funded contracts (model 3). It is also robust to the inclusion of country fixed effects.[12]

[11] There are alternative measures of corruption. One is *Control of Corruption*, which is part of the World Bank's Worldwide Governance Indicators. This variable is coded to gauge "perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests" (Kaufmann et al. 2011, 4). The range of this corruption measure is from −2.5 (most corrupt countries) to 2.5 (least corrupt countries). The World Bank's and ICRG's corruption variables are highly correlated – at .61 in the case of recipient countries, and at .83 in the case of bidding countries. Another alternative is Transparency International's indicator, *Corruption Perceptions Index.* This measure reflects perceptions of public sector corruption on a scale of 0 (highly corrupt) to 100 (very clean). This measure is also highly correlated with the ICRG's corruption index: at .49 in the case of recipient countries, and at .82 in the case of bidding countries.

[12] These models are available in the appendix.

Table 2 Models of ICB contract allocation

	All contracts	IBRD-funded contracts	IDA-funded contracts	All contracts (aid recipients dropped)
B's trade openness	0.00*	0.00	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)
B's GDP per capita	0.14**	0.11*	0.11**	-0.17
	(0.04)	(0.06)	(0.05)	(0.14)
B's GDP growth	0.03**	0.02*	0.03**	-0.06**
	(0.01)	(0.01)	(0.01)	(0.02)
B's competitiveness	0.13	0.06	0.19**	-0.18
	(0.09)	(0.12)	(0.08)	(0.28)
B's corruption index	-0.13**	-0.06	-0.13**	-0.06*
	(0.03)	(0.04)	(0.04)	(0.03)
Recipient as bidder	2.34**	2.74**	1.91**	
	(0.14)	(0.17)	(0.19)	
U.S. as bidder	-0.22**	-0.05	-0.31*	0.09
	(0.10)	(0.16)	(0.18)	(0.16)
Distance				0.09
				(0.08)
Same subregion				-0.32*
				(0.17)
B's share in R's imports				0.12**
				(0.04)
B's share in R's exports				-0.05*
				(0.03)
Joint democracy				0.09
				(0.10)
Ideal point distance				-0.03
				(0.08)
Alliance				0.02
				(0.11)
Aid/GDP				0.04**
				(0.01)
Constant	-1.08**	-1.10**	-0.78**	1.41
	(0.29)	(0.50)	(0.31)	(1.36)
Observations	95,654	51,964	42,062	28,935
Wald chi2	682.52	564.06	315.05	121.36
Prob > chi2	0.00	0.00	0.00	0.00
Correctly classified	70%	76%	65%	55%

Logit models; DV = Contract award; standard errors, clustered by recipient, in parentheses. Unit of analysis: contract bid

* $p < 0.10$, ** $p < 0.05$

The influence of recipients' interests and control over the procurement process is also reflected in the positive and statistically significant relationship between bilateral aid flows from bidding countries to recipients, and the likelihood of receiving a contract. This result indicates that recipients seek to build good will by awarding contracts to countries that provide more foreign aid. To illustrate the substantive significance of this finding, I plot the predicted probability of contract award as a function of the bilateral aid measure. As Fig. 2 shows, the largest donors are almost twice as likely to win a contract as donors that provide the lowest amounts of aid to a given recipient.

Another theoretical expectation finds mixed support. Specifically, the World Bank's procurement rules that structure ICB matter, but only for IDA-funded contracts. Competitiveness, which should enable companies to submit bids to satisfy the lowest-price requirement of the ICB process, only affects the selection of a supplier the third model in Table 2. The coefficient is positive and statistically significant, which indicates that more competitive bidders are more likely to win IDA-funded contracts (model 3 of Table 2). Figure 3 illustrates the positive effect of competitiveness on the allocation of these contracts. IBRD-funded contracts, however, do not appear to go to most competitive bidders (model 2 of Table 2). In addition, the coefficients on *Bidder's competitiveness* are not significant at conventional levels in the remaining two models based on all contracts (with and without recipient countries' bidders). Note that the non-findings in models 1 and 2 can be attributed to high correlation (.71) between GDP per capita and competitiveness. Also, the recipient country status appears to condition the effect of competitiveness: when I re-estimated models 1–3 of Table 2 on the subset of recipient-country bidders, competitiveness has a positive and significant effect on contract award. This suggests that more competitive domestic companies are in a stronger position to secure Bank-funded contracts.[13]

In addition, several control variables yield statistically significant findings, which shed light on other economic and political factors influencing World Bank-funded procurement process. Bidders' economic capacity has a positive association with contract allocation: measures of trade openness, GDP per capita and GDP growth have the expected positive and statistically significant effect on the likelihood of contract award in three out of four specifications. Also, model 4 of Table 2 indicates that larger trade flows from the bidder to the recipient lead to an increase in the likelihood of the bidder winning the contract. This result reaches statistical significance at conventional levels and suggests that recipients may favor previously established import channels for purchases of goods and services.

The empirical analysis produces important political findings that can help to gauge the relative importance of formal and informal constraints in contract allocation. First, the corruption measure yields a result that is in the opposite direction of the World Bank's policy of protecting the bidding process from corruption. Three out of four models in Table 2 show a negative and statistically significant relationship between the control of corruption variable and the likelihood of receiving a contract. This suggests that less corrupt countries have lower odds of securing Bank-funded contracts. The only model in which this result is not statistically significant is based on the sample of IBRD-funded contracts (model 2). In this case, procurement outcomes do not favor more bidders from more corrupt countries, but lower levels of corruption do not improve odds of a contract award.

Second, the informal influence of the World Bank's largest shareholder, the US, does not appear to extend to procurement politics. Table 2 shows that US companies are less likely to win a contract than bidders from other countries. However, this effect appears to be limited to IDA-funded contracts (model 3), whereas the allocation of IBRD-funded contracts does not appear to be biased against US companies. Also, this disadvantage for US companies disappears in the sample without aid recipients: American companies' odds of winning a contract are not different from those of

[13] I thank an anonymous reviewer for pointing out the conditional effect.

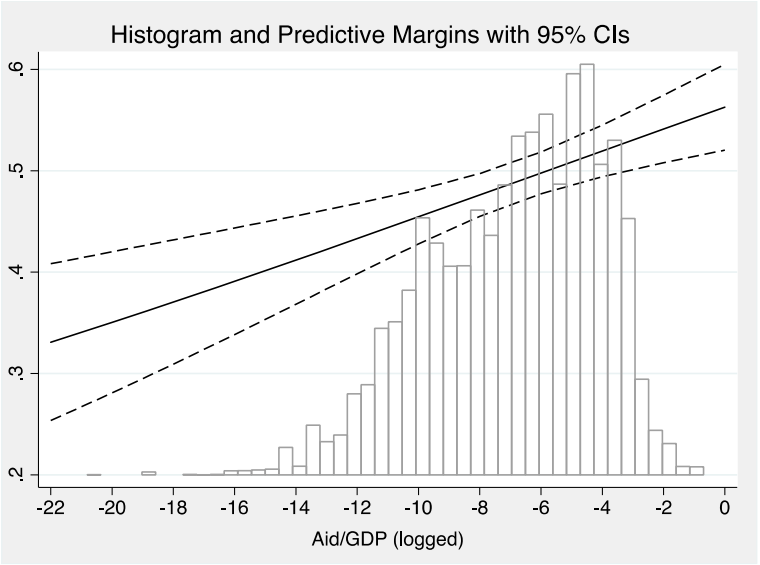

Fig. 2 Effect of bilateral aid on predicted probability of contract award

companies from other non-recipient countries (model 4). These results point to a certain degree of the World Bank's success in constraining its influential shareholders through formal rules.[14]

Third, none of the conventional measures of political closeness exert an influence on contract allocation. Three variables gauging political relations, such as joint democracy, shared foreign policy preferences, or military alliance, fail to reach statistical significance at conventional levels. Similarly, geographical factors (distance between the bidder and recipient countries, and shared geographical subregion) do not appear to explain which bidders succeed in securing World Bank-funded projects.

3.1 A robustness check

One concern that may arise regarding the analysis of ICB contract allocation, discussed in this article, is that the empirical models reported in Table 2 do not take into account the process of contracts' selection into ICB procurement. If there is a significant link between the two stages, a selection model may be more appropriate. Therefore, I

[14] These results based on pooled contract data may be somewhat misleading if the US government chooses to exercise informal influence in some sectors, where powerful domestic interests exist, but not in others. To probe this possible sectoral variation in American informal influence, I replicate model 1 of Table 2 on contracts within 10 individual sectors. These results, reported in the appendix, show that US companies are less likely to win contracts in the following five categories: education; finance; health and social services; industry and trade; public administration and law. At the same time, there is no statistically significant relationship between the US dummy and contract award in three areas: agriculture; transport; and water, sanitation and flood protection. Finally, two sectors exhibit contract allocation patterns consistent with the expectation of informal influence in favor of US companies: i.e., energy and mining; and information and communication. The latter results reach statistical significance at conventional levels.

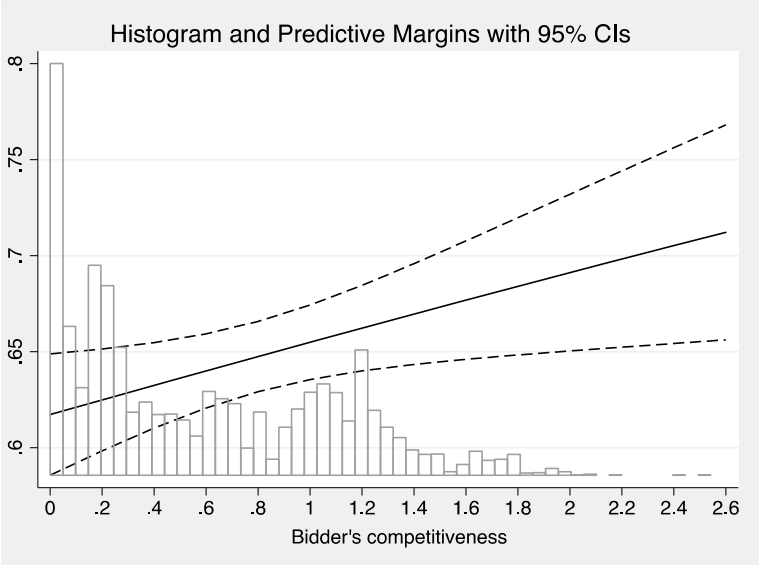

Fig. 3 Effect of bidder's competitiveness on predicted probability of IDA-funded contract award

conduct robustness checks using Heckman probit models and present these results in Table 3. The selection stage in this table reflects the choice of ICB as a procurement method, and the second stage models contract allocation to a given bidder.

The dependent variable in the main equation, as well as all regressors, are identical to those in model 1 of Table 2. The dependent variable in the selection equation is *International Competitive Bidding:* this is a binary indicator which takes the value of one when a given contract is awarded through the ICB process, and zero if another procurement method is chosen. I include several independent variables in this stage.[15] I control for the type of project that generated a given contract: *IBRD project* takes the value of one for IBRD projects, and zero otherwise. I include the same variables that I coded for the bidder in the contract allocation model (i.e., measures of trade openness, GDP per capita, GDP growth, competitiveness, and corruption), but now they are coded for the recipient since the recipient government controls the procurement process and no bids are yet submitted at this stage. Finally, I use a measure of contract size to account for the fact that the World Bank's procurement rules require large contracts to be awarded through ICB.

The results reported for the contract allocation stage in Table 3 are similar to the results of the logit model of contract allocation. At the ICB choice stage, the two key determinants of allocating a contract through ICB are the contract's size and IBRD funding. Other variables, including the recipient's competitiveness, appear to exert little to no effect on the choice of a procurement method. In addition, there is mixed evidence that the two stages are correlated: the second model shows a statistically significant correlation between them, whereas the first model does not.

[15] Logit models of ICB choice are reported in the appendix.

Table 3 Selection models of contract allocation

	All contracts	All contracts (aid recipients dropped)
DV: Contract allocation		
B's trade openness	0.00	0.00
	(0.00)	(0.00)
B's GDP per capita	0.11**	0.03
	(0.03)	(0.10)
B's GDP growth	0.02**	-0.02*
	(0.01)	(0.01)
B's competitiveness	0.11*	-0.13
	(0.06)	(0.19)
B's corruption index	-0.08**	-0.05*
	(0.02)	(0.03)
Recipient as bidder	1.48**	
	(0.08)	
U.S. as bidder	-0.09	-0.03
	(0.06)	(0.09)
Distance		0.02
		(0.05)
Same subregion		-0.28**
		(0.09)
B's share in R's imports		0.04
		(0.02)
B's share in R's exports		-0.00
		(0.02)
Joint democracy		0.07
		(0.06)
Ideal point distance		0.02
		(0.05)
Alliance		-0.01
		(0.07)
Aid/GDP		0.02**
		(0.01)
Constant	-1.03**	-0.61
	(0.23)	(1.10)
Selection DV: ICB		
IBRD project	0.24**	0.38**
	(0.12)	(0.19)
R's trade openness	-0.00	-0.00
	(0.00)	(0.00)
R's GDP per capita	-0.09	-0.23*
	(0.09)	(0.13)
R's GDP growth	-0.01	-0.01
	(0.01)	(0.01)
R's competitiveness	0.16*	-0.05
	(0.10)	(0.12)
R's corruption index	0.03	0.07
	(0.05)	(0.06)
Contract amount	0.10**	0.08**
	(0.01)	(0.02)
Constant	-0.45	-0.31
	(0.70)	(0.95)
athrho		
	0.16	0.35**
	(0.18)	(0.16)
Observations	142,529	82,915
Wald chi2	820.66	76.94
Prob > chi2	0.00	0.00

Heckman probit models.
DV = Contract award; selection stage DV = ICB. Standard errors, clustered by recipient, in parentheses. Unit of analysis: contract bid
* $p < 0.10$, ** $p < 0.05$

4 Conclusion

This article has examined the politics of World Bank-funded procurement, which represents the final stage of multilateral aid allocation. I have argued that both recipient and donor governments have domestically-driven preferences over procurement outcomes. At the same time, procurement rules restrict donors' ability to affect procurement to benefit their domestic companies. Recipient governments, however, are in a position to do so. These governments are traditionally considered weak. Yet, institutional rules that guide contract allocation put these governments in charge of the process and leave enough leeway in its administration of procurement to offer preferential treatment not only to recipients' domestic companies, but also to companies of these countries' significant bilateral aid donors.

While the favorable treatment of domestic companies is attributed to the interaction of pressures that domestic companies exert on their government and the World Bank's development mandate, which explicitly sanctions this special treatment, the benefits to donors' companies are linked to bilateral relationships between the two governments. The vignette included in the theoretical discussion is particularly informative in this regard. The testimony does not indicate that the US government influences (or should influence) the World Bank to make procurement outcomes more favorable to US companies. Instead, the testimony emphasizes the US government's involvement with contract allocation in Nigeria, i.e., the recipient country in charge of procurement. Therefore, the recipient government is likely to recognize that these World Bank-funded contracts would improve its bilateral relations with an important donor government.

The empirical results presented in the article lend significant support to my theoretical argument. While formal procurement rules constrain the contract allocation process, their impact is weaker than could be expected and appears to constrain the World Bank's donors much more than recipients. Bidders' competitiveness has a significant positive effect on contract awards, but only for IDA projects, despite the fact that a key requirement for ICB contract allocation is generally the lowest price. At the same time, recipient interests exert a noticeable influence on patterns of contract allocation, as recipients' domestic suppliers are much more likely to win a contract than a company from any other country. Finally, the article shows that recipients do extend some of this preferential treatment to companies from countries that provide significant amounts of bilateral aid. In sum, the results reported in this paper suggest that much of multilateral aid ultimately flows to aid recipients, and some of it returns to their donors in the form of aid-funded contracts.

This study sheds light on the trade-off between promoting domestic development and economic growth in recipient countries in accordance with the World Bank's mandate and allocating multilateral aid efficiently. Recipient governments are able to favor their domestic companies and companies of significant bilateral donors in the process of contract allocation; however, this allocation bias is costly since the most competitive bids may not always win. At the same time, recipient governments may be willing to pay this price to secure political benefits – support from domestic economic constituents and important bilateral donors. Donor governments may be similarly inclined to tolerate this inefficient procurement process as long as their companies continue receiving aid-funded contracts. However, it is not clear if domestic companies' advantage in securing contracts indeed promotes economic development in recipient countries, and what effect the identified procurement bias has on the effectiveness of World Bank programs. These potential effects of project procurement merit further research.

Appendix

Table 4 Descriptive statistics

	Mean	Std.Dev.	Min	Max	Data source
Project fractionalization	0.70	0.30	0	1.00	Constructed by author
Number of contracts	39.14	81.44	1	1444	Constructed by author
IBRD project	0.38	0.49	0	1	Contract Awards Data
Contract amount (log)	11.52	2.16	0.00	21.87	Contract Awards Data
Over works threshold dummy	0.61	0.49	0	1	Constructed by author
Over goods threshold dummy	0.82	0.39	0	1	Constructed by author
ICB	0.48	0.50	0	1	Contract Awards Data
Contract award	0.69	0.46	0	1	Constructed by author
R's trade openness	64.83	35.66	14.93	237.99	WDI
R's GDP pc (log)	6.79	1.04	4.42	9.47	WDI
R's GDP growth	5.24	4.65	-28.10	88.96	WDI
R's competitiveness (RCA7)	0.36	0.40	0	2.54	Constructed by author using NBER-UN trade data
R's corruption index	2.36	0.79	0	5	PRS Group
B's trade openness	61.82	41.23	1.08	460.47	WDI
B's GDP pc (log)	8.12	1.70	4.42	10.91	WDI
B's GDP growth	4.29	3.72	-17.00	71.19	WDI
B's competitiveness (RCA7)	0.70	0.50	0	2.54	Constructed by author using NBER-UN trade data
B's corruption index	3.14	1.31	0	6	PRS Group
Recipient as bidder	0.51	0.50	0	1	Constructed by author
US as bidder	0.04	0.20	0	1	Constructed by author
Distance (log)	8.22	0.95	3.37	9.88	EUGene (Bennett and Stam 2000)
Same subregion	0.58	0.49	0	1	Constructed by author
B's share in R's imports	1.70	1.66	-25.78	4.59	COW Trade Data
B's share in R's exports	1.23	1.98	-10.26	4.59	COW Trade Data
Joint democracy	0.29	0.45	0	1	Polity IV
Ideal point distance	1.49	1.08	0	4.55	Bailey et al. (2017)
Alliance	0.06	0.23	0	1	COW Alliance Data
Aid/GDP (log)	-6.94	2.77	-20.81	-0.70	AidData (Tierney et al. 2011)

Table 5 Logit models of choosing international competitive bidding as contract award method

	All projects	IBRD projects	IDA projects
IBRD project	0.35**		
	(0.15)		
R's trade openness	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.01)
R's GDP per capita	-0.08	0.02	-0.50**
	(0.13)	(0.17)	(0.22)
R's GDP growth	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.02)
R's competitiveness	0.36**	0.46**	0.00
	(0.16)	(0.19)	(0.70)
R's corruption index	0.03	0.15	-0.21**
	(0.08)	(0.11)	(0.08)
Contract amount	0.15**	0.16**	0.14**
	(0.02)	(0.03)	(0.04)
Constant	-1.47	-2.39	1.84
	(1.07)	(1.64)	(1.43)
Observations	115,601	65,243	48,484
Wald chi2	91.70	57.76	44.44
Prob > chi2	0.00	0.00	0.00
Correctly classified	58%	60%	61%

Logit models; DV = ICB procurement; standard errors, clustered by recipient, in parentheses. Unit of analysis: contract bid

* $p < 0.10$, ** $p < 0.05$

Table 6 Models of contract allocation (with country fixed effects)

	All projects	IBRD projects	IDA projects	All projects (aid recipients dropped)
B's trade openness	0.00**	0.00	0.00**	0.03**
	(0.00)	(0.00)	(0.00)	(0.00)
B's GDP per capita	0.10**	0.08**	0.05**	1.76**
	(0.01)	(0.02)	(0.02)	(0.24)
B's GDP growth	0.03**	0.03**	0.02**	-0.12**
	(0.00)	(0.00)	(0.00)	(0.01)
B's competitiveness	0.24**	0.21**	0.25**	-0.99**
	(0.03)	(0.04)	(0.04)	(0.32)
B's control of corruption	-0.11**	-0.05**	-0.11**	0.09**
	(0.01)	(0.01)	(0.01)	(0.02)
Recipient as bidder	2.26**	2.64**	1.74**	
	(0.03)	(0.04)	(0.04)	
U.S. as bidder	-0.24**	-0.11**	-0.32**	-0.58
	(0.04)	(0.05)	(0.06)	(0.65)
Distance				0.05*
				(0.02)
Same subregion				-0.64**
				(0.07)
B's share in R's imports				0.14**
				(0.02)
B's share in R's exports				0.00
				(0.01)
Joint democracy				0.11**
				(0.03)
Ideal point distance				0.08**
				(0.02)
Alliance				-0.00
				(0.05)
Aid/GDP				0.04**
				(0.01)
Observations	95,478.00	51,888.00	41,915.00	28,860.00

Logit models; DV = Contract award; standard errors, clustered by recipient, in parentheses. Unit of analysis: contract bid

* $p < 0.10$, ** $p < 0.05$

Table 7 Models of contract allocation (by sector)

	Ag	Ed	En	Fin	Hlth	Ind	Inf	Pa	Tr	Wat
B's trade openness	0.00	0.00**	0.00	0.00	0.00**	-0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
B's GDP per capita	0.13*	0.29**	-0.08	0.18	0.08	0.06	0.13	0.19**	0.20**	0.10
	(0.07)	(0.07)	(0.06)	(0.15)	(0.06)	(0.10)	(0.11)	(0.04)	(0.07)	(0.07)
B's GDP growth	0.03	0.05**	0.02*	0.05	-0.00	0.01	0.00	0.04**	0.04**	0.04**
	(0.02)	(0.02)	(0.01)	(0.04)	(0.01)	(0.03)	(0.02)	(0.01)	(0.01)	(0.02)
B's competitiveness	0.32**	0.12	0.09	0.04	0.27	-0.18	-0.28	0.06	0.14	0.33**
	(0.12)	(0.11)	(0.18)	(0.27)	(0.17)	(0.18)	(0.20)	(0.09)	(0.20)	(0.13)
B's corruption index	-0.13**	-0.24**	-0.03	-0.17**	-0.11**	-0.01	-0.23**	-0.12**	-0.20**	-0.15**
	(0.04)	(0.06)	(0.06)	(0.08)	(0.05)	(0.07)	(0.06)	(0.03)	(0.05)	(0.05)
Recipient as bidder	2.45**	2.31**	2.04**	2.05**	2.23**	2.19**	1.85**	2.42**	2.59**	2.43**
	(0.20)	(0.22)	(0.22)	(0.34)	(0.23)	(0.26)	(0.32)	(0.15)	(0.17)	(0.17)
U.S. as bidder	-0.29	-0.79**	0.27**	-0.75**	-0.25*	-0.45*	0.62**	-0.22**	-0.16	-0.15
	(0.22)	(0.17)	(0.12)	(0.30)	(0.14)	(0.26)	(0.17)	(0.11)	(0.16)	(0.18)
Constant	-1.12*	-1.94**	0.48	-1.21	-0.58	-0.11	-0.42	-1.53**	-1.56**	-0.94*
	(0.64)	(0.52)	(0.32)	(1.24)	(0.37)	(0.84)	(0.81)	(0.32)	(0.51)	(0.50)
Observations	6376	9220	12,370	1520	13,399	3696	1440	28,812	10,849	7971
Wald chi2	321.89	184.76	310.80	78.43	214.19	411.20	300.23	609.73	664.61	441.54
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Correctly classified	72%	73%	68%	68%	70%	71%	69%	70%	74%	72%

Logit models; DV = Contract award; standard errors, clustered by recipient, in parentheses. Unit of analysis: contract bid

The sectors are: *Ag* Agriculture, *Ed* Education, *En* Energy & mining, *Fin* Finance, *Hlth* Health & social services, *Ind* Industry & trade, *Inf* Information & communication, *Pa* Public administration & law, *Tr* Transportation, *Wat* Water, sanitation & flood protection

* $p < 0.10$, ** $p < 0.05$

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