Journal of Public Administration Research and Theory, 2023, **33**, 262–278
https://doi.org/10.1093/jopart/muac026
Advance access publication 17 May 2022
Article

OXFORD

Agency Independence, Campaign Contributions, and Favoritism in US Federal Government Contracting

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Abstract

The impacts of money in US politics have long been debated. Building on principal-agent models, we test whether and to what degree companies' political donations lead to their favored treatment in federal procurement. We expect the impact of donations on favoritism to vary by the strength of control by political principals over their bureaucratic agents. We compile a comprehensive dataset of published federal contracts and registered campaign contributions for 2004–15. We develop risk indices capturing tendering practices and outcomes likely characterized by favoritism. Using fixed effects regressions, matching, and regression discontinuity analyses, we find confirming evidence for our theory. A large increase in donations from $10,000 to $5m (in USD) increases favoritism risks by about 1/4th standard deviation (SD). These effects are largely partisan, with firms donating to the party that holds the presidency showing higher risk. Donations influence favoritism risks most in less independent agencies: the same donation increases the risk of favoritism by an additional 1/3rd SD in agencies least insulated from politics. Exploiting sign-off thresholds, we demonstrate that donating contractors are subject to less scrutiny by political appointees.

Introduction

The 2018 Federal Budget Bill (online appendix, Budget of the US Government, Fiscal Year 2018, 728 (a)) states that "None of the funds made available in this or any other Act may be used to recommend or require any entity submitting an offer for a Federal contract to disclose any of the following information as a condition of submitting the offer: (1) Any payment consisting of a contribution, expenditure, independent expenditure, or disbursement for an electioneering communication…." Such language makes it hard to ignore the suspicion that the legislators intend to hide links between companies' campaign contributions and the federal contracts they win. This suspicion is even more disturbing given numerous scandals of favoritism and corruption in federal contracting linked to campaign contributions and other forms of influencing high-level decision makers. A case in point is a $300m contract to assist in the reconstruction of Puerto Rico's electricity grid awarded to a company with only two full-time employees,[1] owned by an individual who gave significant financial support to the Trump presidential campaign.[2]

The potentially democracy-distorting effects of money in elections have long been debated, in particular in the United States, in the courts, the media, and in the scholarly record (Ansolabehere, de Figueiredo, and Snyder 2003). We know that compared to non-donating firms, donating firms receive more favorable sentences when facing legal issues (Fulmer and Knill 2013) and have significant influence on legislation (McKay 2018). There is mounting evidence that companies donating to federal election campaigns win more contracts (Bromberg 2014; Witko 2011). What is still unclear are the mechanisms by which politicians might influence the procurement process in favor of donors, given the key role independent bureaucrats play in the process. While findings that government suppliers hiring politicians and top appointees receive preferential treatment suggest pathways of political influence in procurement (Goldman, Rocholl, and So 2013), little is known how politicians benefiting from donations can steer federal contracts to donating firms.

Some evidence on the politicization of agency spending suggests that there is substantial variation across federal agencies and offices (Gordon 2011). Research from both high- and low-integrity countries reveals that partisan favoritism and corrupt contracting depend on non-meritocratic and non-independent bureaucracies to allocate contracts to cronies (Boas, Hidalgo, and Richardson 2014; Broms, Dahlström, and Fazekas 2019; Charron et al. 2017). It is quite possible but untested that US federal spending is biased

The authors would like to express their gratitude to numerous colleagues who have commented on this work, in particular, Adam Ramey, Agnes Batory, Carl Dahlstrom, Charles Cameron, Christopher Yukins, David E. Lewis, Gemma Dipoppa, Gergo Toth, Gianmarco Daniele, and Steven Scooner. We are also grateful to participants for their insightful and stimulating comments in lunchtime seminars at the Central European University and George Washington University. Romain Ferrali gratefully acknowledges financial support from the French National Research Agency Grant ANR-17-EURE-0020 and the Excellence Initiative of Aix-Marseille University—A*MIDEX.

[1]https://www.reuters.com/article/us%2Dusa%2Dpuertorico%2Dpower/puerto%2Drico%2Dwhitefish%2Ddefend%2Dcontroversial%2Dpower%2Dcontract%2DidUSKBN1CU020.

[2]https://en.wikipedia.org/wiki/Whitefish_Energy.

by political donations, and that this is mediated by agency insulation from politics. To fill this gap, we ask the following question:

How Do Political Party Contributions Bias the Award of US Federal Government Contracts Favoring Donating Firms?

We conceptualize this analytical problem using a principal–agent framework, considering interactions between permanent bureaucrats on the one hand, and elected politicians and their bureaucratic appointees on the other. We combine two comprehensive datasets to test our hypotheses: data on federal contracting payments covering years 2004–15[3] and data on individual donations by firm employees to political campaigns (Bonica 2016).

Answering our research question requires examining the impact of contractors' political donations on whether a contract was awarded under circumstances that suggest favoritism (e.g., noncompetitive tendering procedures, or lack of contenders in formally competitive tenders). Hence, our dependent variable is defined at the contract level: using factor analysis, we derive an indicator of favoritism as a latent dimension from seven individual risk factors that each are *weakly* suggestive of favoritism. Our main independent variable captures donations from federal contractor donations to political parties and election campaigns.

Finding exogenous sources of variation in political donations is a challenge. Previous research has, to a large extent, sacrificed external validity for internal validity by leveraging small scale natural experiments as sources of exogenous variation in political donations. This article takes an alternative route: we make global claims and leverage the universe of federal contracts over a long period of time. Doing so allows us to take advantage of the granularity of the data to make narrowly defined comparisons using a wide range of fixed effects. Our main specification uses fixed effects to compare contracts over the same congressional term, awarded by the same agency in the same state, for the same product category, leaving little room for unobserved confounders. Additionally, our results are largely unchanged across robustness checks, for instance when tested on a smaller matched sample. Finally, as public procurement regulations require different levels of involvement of political appointees depending on contract value, we leverage these discontinuities to show that donor firms are favored through the politicization of agencies.

We report four core findings. We replicate Witko's (2011) finding that donating companies tend to win a higher total contract value, using a larger sample with a better specified dependent variable. Second, substantial donations to federal campaigns increase the likelihood of favoritism in contract allocation: donations going from $1,000 to $5m increase favoritism risks by about 1/3rd standard deviation (SD) (higher values indicate a higher risk). Third, we find that impact is partisan: the observed average impact of donations is driven by donations to the president's party, with donations to the opposition being less effective. Fourth, crucially for understanding the bureaucratic dynamics that enable favoritism in contracting, the impact of donations on contracting risks is considerably larger where the contract is awarded by more politicized federal agencies. Specifically, contracts won by firms making large donations to the president's party ($2.9m or more) have 1/3rd SD greater favoritism risk when the awarding agency is a less independent executive department, compared to more insulated parts of the bureaucracy. Examining a key mechanism underlying our findings, we find that contracts awarded to donor firms show comparatively more favoritism when a political appointee is involved in the process compared to non-donors.

Compared to past studies in public administration and political science we make three contributions to the literature. First, we refine theories of principal–agent relationships in government contracting (Waterman, Rouse, and Wright 1998), investigating the situation when the principal is unprincipled, that is it furthers the private interests of donating firms rather than the public. In such situations, the goal conflict between principals (elected politicians) and agents (independent bureaucrats) represents a safeguard for integrity in government contracting. We also expand the literature discussing political influences on US federal contracting (Witko 2011) and bureaucratic responsiveness to political stimuli (Dahlström, Fazekas, and Lewis 2021). We find that politicians benefiting from extensive corporate donations can influence tendering terms and bid evaluation to the degree that specific donating firms benefit directly. This requires a depth of influence on budget execution which ought to worry the American public. Third, we refine the literature on the politics of presidential appointments and the impacts of politicizing the federal bureaucracy (Hollibaugh 2014). We demonstrate that a key mechanism linking political donations to contracting outcomes goes through political appointees interfering in the contracting process in favor of donating firms [complementing recent work on the impact of agency structure (Krause and Zarit 2022)]. While our effect sizes are modest on average, they become substantial when a highly politically engaged company (i.e., a large donor) meets a highly politicized federal bureaucracy. This suggests that there should be significant returns to improving bureaucratic insulation in selected federal offices, both in terms of improving outcomes and moderating the corrupting effect of money in politics.

Theory

Political Favoritism and Campaign Donations

Let us first define two core concepts this article investigates: political campaign donations and political favoritism in government contracting (for a conceptual overview, see Fazekas and Cingolani 2017). Political campaign donations in electoral democracies refer to the "*(legal and illegal) financing of […] electoral campaigns (in particular, campaigns by candidates and political parties, but also by third parties)*" (Falguera, Jones, and Ohman 2014, 2). Such financing can take many forms such as monetary transfers or in-kind support (e.g., renting out a company venue to campaign events for a nominal price). Campaign donations may pass through many channels, some of which can be used to hide the link between sender and recipient. For example, if laws preclude direct donations by corporations, their employees could offer individual donations instead.

[3]https://www.usaspending.gov/.

Favoritism in government contracting[4] is a phenomenon distinct from various forms of corruption discussed in the literature such as bribery or bureaucratic corruption (Heidenheimer and Johnston 2001; Johnston 1996). In the context of government contracting and campaign donations, high-level government favoritism is what plays a central role, rather than instances of low-level bribery (Fazekas, Tóth, and King 2016; OECD 2007). Hence, we define high-level corruption or *favoritism in public procurement* as *the allocation and performance of public procurement contracts by bending prior explicit rules and principles of good public procurement in order to benefit a closed network while denying access to all others* (Mungiu-Pippidi 2015). The goal of such favoritism is to steer the contract to the favored bidder without detection, often recurrently and in an institutionalized fashion (World Bank 2009). This can be done, for example, by avoiding competition (e.g., unjustified sole sourcing) or favoring a certain bidder (e.g., tailoring specifications to a particular company) (Fazekas and Kocsis 2020). Many transactions designated as favoritism by this definition may be legal by current federal laws. In other words, such actions break the spirit rather than the letter of the law.

Favoritism in government contracting in return for campaign donations is best conceptualized as an exchange of favors between private actors (companies) and public actors (politicians) on a regular, institutionalized basis (Porta and Vannucci 1999). Favors from private to public actors can take the form of money or in-kind benefits, while favors from public to private actors consist of preferential treatment in procurement tenders and contract execution (OECD 2017). To grant access to government contracts, candidates for public office must win elections—a risky endeavor that requires considerable financial resources—and use their public powers in favor of donating companies—an activity which is subject to bureaucratic controls. To make the enterprise profitable, companies need to extract rents from government contracts, either by charging above-market rates, or by delivering below-market quantity or quality. Rents and their flows need to remain secret, hence the frequent use of secrecy jurisdictions for bank transactions and company registration (Shaxson and Christensen 2014). Elite groups managing regular, institutionalized favor exchanges develop effective means of enforcing deals over many months, even years, making the exchange of campaign donations for government contracts complex and hard to pin down precisely. Payments often belong to a broader scheme rather than a direct exchange (Witko 2011).

Public Procurement with a Dishonest Principal: Theory and Testable Predictions

Contracting by the US federal government is a highly regulated administrative process whereby federal agencies and their offices purchase goods and services ranging from school meals to military equipment (Schooner, Nash, and O'Brian-Bakey 2013). It is subject to profound political influences and pressures in spite of the preeminent role played by independent bureaucracies (Brunjes 2019). Much of the public administration scholarship on US federal contracting looks at the various effects of bureaucratic decisions such as transaction costs of contracting, competition, or value for money, while paying less attention to political pressures and biases (Brunjes 2020; Girth and Lopez 2019; Petersen et al. 2019).

Among dominant theoretical perspectives on contracting, the principal–agent framework is particularly suited to analyze how political influences may impact federal contracting. The approach analyzes an asymmetric relationship between a principal (the politician) and an agent (the bureaucrat). The principal wishes to govern the actions of the agent, knowing that (1) the principal has incomplete control over the agent, and (2) the principal and agent may have different goals. This typically assumes that the principal is honest, while the agent may have diverging interests, such as favoring a suboptimal firm (e.g., Brunjes 2020; Girth and Lopez 2019). This assumption is most appropriate when the analysis focuses on which policies may best prevent dishonest agents from engaging in favoritism.

To model the impact of political influences on federal contracting, we suppose instead, following Witko (2011), that the principal is dishonest, and wishes to reward a client (donor) firm. Within the existing regulatory framework, the principal thus wants to prevent honest agents from awarding the contract to another firm than the client, be it the optimal firm (if the agent is honest), or another firm (if the agent is dishonest, but disagrees with the principal over which firm to favor).

The principal's goal of rewarding a donor firm translates into more proximate goals for each stage of the procurement process, which we leverage when constructing our measure of favoritism. Once it is decided to procure a product, the procurement process has three stages: (1) preparation and tendering; (2) contract award; and (3) contract implementation. The first stage requires that decisions are made regarding product specifications, the expected experience and qualities of the supplier and the format of the tender, such as whether to use an open auction format. At this stage, a dishonest politician is interested in creating a monopoly position or resource dependence (Malatesta and Smith 2011), favoring the donating bidder (client) by, for example, defining overly specific products to purchase. Conversely, an honest politician would want to follow federal contracting rules mandating open competition or a trusted relationship with a well-performing contractor (Brunjes 2020). After submission, during the contract award stage, bids are assessed for eligibility (i.e., whether they fulfill the conditions for participating in the tender) and eligible bids are ranked to select the winner. At this stage, a dishonest politician would apply pressure on contracting officers to favorably assess the bid submitted by the donating firm (client). Conversely, an honest politician would want bureaucrats to impartially evaluate all bids following contracting terms and legal prescriptions. During the contract implementation stage, the buyer receives goods and services from the contracted supplier, while contract modifications, such as increasing contract value, can occur (Petersen et al. 2019). In this stage, a dishonest politician would aim for lenient verification of quality or modifying the contract in a favorable manner. An honest politician would want bureaucrats to minimize deviations from agreed terms.

This setup yields our first testable prediction. Since dishonest principals wish to reward donor firms while honest principals neither want to punish nor reward such firms, and

[4]We use the terms government contracting, public procurement or public tendering interchangeably throughout this article.

since politicians have a modicum of control over bureaucrats (Gordon 2011), firms should increase their chances of being favored by donating to any political party. In other words, donations act as a generic "entry ticket" to the political class and their informal networks (Witko 2011). They enable diverse paths of influence, leading to preferential treatment potentially at any stage of the procurement cycle. Particularly in the highly fragmented US political system, even politicians from the minority party can influence spending decisions of key committees and have contacts and pressure points on the federal bureaucracy. Hence, any donation, whether going to a particular race for the presidency or Congress, or to the party holding majority or minority in Congress has some degree of influence over the favored treatment of bidding firms (Bromberg 2014). For example, interviewees of Bromberg (2014) noted instances in which, "A company who is competing will write their Senator or their Representative and will say 'Any support you can get me' and we will generally get an inquiry letter stating, 'We understand they've applied, we want to make sure you give them all the fair treatment'." Such a broad and rather blunt hypothesis does not preclude that the quantity of donations matters. That is to say, a company has to be noticed by the political elite to be able to build and use connections: small donations might matter less or not at all compared to large donations. Hence, we hypothesize:

> **Hypothesis 1.** By donating to any political party, the company increases its chance of being favored in federal contracting.

A crucial parameter in the principal's ability to achieve her goal is her degree of control over the agent: the greater the ability of (corrupt) politicians to control contracting officers, the more likely that favoritism arises. In the context of public procurement, US federal bureaucrats are governed by multiple principals. While the executive acts in this role through political appointees, Congress defines budget appropriations that could lead to favoritism, for instance by allocating budget to specific products like a particular military kit.

Our theory sidesteps Congressional control over the bureaucracy and focuses on executive control for two reasons. First, an extant literature has shown that political appointees are an effective mechanism for political principals to govern the actions of bureaucrats (Lewis 2010). In the context of public procurement, political appointees may influence processes and outcomes in subtle ways (Dahlström, Fazekas, and Lewis 2021). Political appointees in top agency positions can have a variety of indirect means for influencing contracting officers throughout the whole tendering cycle. This can happen informally whereby bureaucrats understand implicit political preferences and aim to implement them creating a goal congruence between politicians and bureaucrats (Witko 2011). For example, an appointee can speak highly of a particular firm during a coffee break making it clear that the career contracting official's advancement in the agency would be favorably viewed if that particular firm receives its "fair share." Moreover, appointees in programmatic positions can influence the tender preparation stage by defining product specifications or bidder experience requirements which steer the contract to a firm (e.g., requesting purchase of an aircraft produced by one company). Appointees in procurement positions can also influence multiple phases of the procurement process. During the tender preparation phase, approval from political appointees is typically needed for exceptional noncompetitive procedures on high-value tenders. This implies that an appointee can directly use the sign-off role to steer a contract. At this stage, tendering terms and assessment criteria can also be influenced in ways that subtly favor a particular company, for example, by requiring specific experience only one company has or tuning scoring weights to a company's strengths.

Second, given that the incumbent tends to hold small majorities in Congress and that party discipline is low, the conditions for Congress to routinely influence the procurement process seem daunting.[5] As such, we relegate the examination of Congressional influence over the procurement process to further research.

Exploring the consequences of executive control over the bureaucracy leads us to formulate two additional hypotheses. First, because the executive exerts control over the bureaucracy, donating to the incumbent party should be more effective than donating to the opposition. Indeed, the literature on the United States emphasizes the partisan nature of companies' political influence and the importance of connections to holders of key government posts like the presidency rather than connections to the opposition (Boas, Hidalgo, and Richardson 2014; Goldman, Rocholl, and So 2013). Hence donations to the president's party are likely to influence the president himself as both Republican and Democratic parties are highly institutionalized organizations that use campaign contributions strategically (Schleiter and Voznaya 2018). As such:

> **Hypothesis 2.** By donating to the party in power, the company increases its chance of being favored in federal contracting more than by donating to the opposition.

Second, if political appointees are a key mechanism of executive control over the procurement process, then federal agencies that are less insulated from the president should be more amenable to manipulation. More independent agencies mostly enjoy more freedom over staffing decisions (Hollibaugh 2014), but may also enjoy more independence over policymaking, notably in budgeting (Selin 2015). Our reasoning is best illustrated by a scandal analyzed by Gordon (2011), in which a White House official briefed political appointees at a federal agency, the General Services Administration (GSA), suggesting they should use agency resources for political ends. Crucially for our understanding of this mechanism, only one of GSA's branches, the Public Buildings Service, responded to the clear political guidance. This is the part of GSA which sees a higher proportion of senior political appointees, with two of its three most senior positions filled with appointees at the time. We argue that the depth of political appointees' penetration into agencies determines the degree of influence of party donations on agency decisions such as contracting design and outcomes (Dahlström, Fazekas, and Lewis 2021). Hence, we hypothesize:

[5]Congress might be able to exert control over the procurement process indirectly, through the veto power it exerts on the nomination of political appointees. Lacking detailed data on the appointment processes, we are unable to explore in detail the interaction between presidential and congressional appointee approvals.

Hypothesis 3. By donating to the party in power, the company increases its chance of being favored in federal contracting especially when agency independence is low.

Note finally that the depth of political appointees' penetration into an agency is likely the most important determinant of the principal's ability to influence the procurement process. Indeed, as public procurement is tightly regulated in the United States (Schooner, Nash, and O'Brian-Bakey 2013), with largely uniform standards across the federal government, political principals are arguably unable to leverage variation in regulations across agencies.[6] Similarly, the overall accountability framework, including audit requirements, judicial review, or civil society oversight, is also similar across federal agencies.[7] As such, of the three main areas of procurement capture—legislation, accountability, and implementation,—variation in the extent to which implementation is politicized is the key area of interest (David-Barrett and Fazekas 2019).

Data, Indicators, and Methods

Data

Contract Data

We collected transaction level data on federal contracts[8] from usaspending.gov, the US government's online repository of federal spending, containing virtually all federal contracts in the United States from 2004 to 2015, inclusive. The source reports individual "actions" on contracts, such as payments or modifications. We aggregated these actions to the contract level, totaling more than 2.1m contracts. The federal contracting database includes information on all contracts above a mandatory reporting threshold ($25,000 for most of our period) awarded by federal agencies regulated by the Federal Acquisition Regulation (FAR).[9] We followed the protocol outlined in other works on public procurement for data cleaning and coding (Charron et al. 2017; Dahlström, Fazekas, and Lewis 2021). We filter for high-value contracts above $180,000,[10] the monetary threshold for World Trade Organization Government Procurement Agreement[11] rules (i.e., internationally competitive public procurement), cutting our sample size to just under half a million contracts.

We extracted and aggregated the following records for each contract:

- Sum of dollars obligated.
- Date the contract was signed.
- Place of contract's performance.
- The estimated total value of the contract.
- The buyer's office and agency identifier, and whether the GSA ran the procurement.
- The supplier's and parent company Dun and Bradstreet (DUNS) numbers and names.
- The registered location of the supplier.
- The detailed Product Service Code (PSC) of the contract.
- Tender advertisement: whether the contracting opportunity was listed on FedBizOpps.
- The procedure type used.
- The number of bidders submitting offers.
- The number and type of modifications made during contract performance.
- The pricing type of the contract: fixed, cost-plus, or another pricing formula.

Four fields in our data to identify the supplier: the Dun and Bradstreet DUNS number, the parent company's DUNS number, and the names of the supplier and parent company. We link all entities with the same name and a shared DUNS or parent DUNS number.

Matching Vendors to Political Contributions

We also collected campaign contributions data. The Database on Ideology, Money in Politics, and Elections (DIME) includes campaign contributions from individuals from 1979 to 2014 to candidates for federal office in the United States and to political party organizations (i.e., Democratic and Republican national committees), grouped by congressional term (Bonica 2016). Data on contributions from individuals includes two fields for employers.

We processed these names and linked them to contract supplier names associated to contracts. Our matching procedure looks up each company name appearing on campaign contributions in a list of all aliases observed in the contracting data, improving robustness to alternative representations of companies in contributions. For each supplier, we record sums of their contributions to Republican and Democratic campaigns in each congressional term from January 2003 to December 2014. At the contract level we note the supplier's total contributions to both parties in the current and previous terms.

While political donations recorded in the data come from individuals (and company donations are largely opaque in the United States), it is companies who benefit from government contracts. Hence, we argue that individual donations are a suitable proxy for company political alignment and represent a major channel through which companies seek political favors in the United States. We sum all individual donations to a party on the company level and show that large donations are what matter. It is likely that individual donations are aligned with the company's political preferences and unobserved political party financing. High value donations tend to come from top company officials. Nevertheless, we acknowledge that using sums of individual donations as a proxy for company political financing may bias our estimates.

Indicators

Favoritism Risk Index

Our data do not directly record instances of favoritism in the procurement process. To circumvent this problem, we construct the favoritism risk index (FRI), an index that captures the *risk* of favoritism in a contract award. To do so, we select

[6]There are some agency-specific regulations such as for the Department of Defence. We control for these by using agency-office fixed effects.

[7]Again, the existing agency-specific variation in rules is removed by our agency-office fixed effects.

[8]This includes so-called indefinite delivery vehicles that are, in essence, multiyear rolling contracts.

[9]There are a number of legally mandated exceptions and exchanges with domain experts that suggest that administrative error may bias the database to a small degree. Nevertheless, we assess that our claim to complete representation of federal purchasing is adequate. For information on the Federal Acquisition Regulation see https://www.acquisition.gov/browsefar.

[10]Visual inspection revealed no indication of gaming around this threshold suggesting that our chosen sample adequately approximates the true full population of federal contracts above $180,000.

[11]https://e-gpa.wto.org/en/ThresholdNotification/FrontPage.

a series of binary risk indicators that capture deviations from standard competitive tendering at each stage of the tendering process (i.e., design, award, execution). We then aggregate them into a composite index.

We select seven elementary indicators that indicate deviations from standard competitive tendering at various stages of the tendering process, using an extensive review of the literature (Fazekas and Kocsis 2020; Klasnja 2016; Lewis-Faupel et al. 2016).

1. *Single bidding*: whether the contract was awarded in a tender where only one company bid. Favoring a company by artificially eliminating its competitors (e.g., by tailoring contract terms) can result in only one bid submitted on an otherwise competitive market.
2. *No publication*: whether the tendering opportunity was not announced on FedBizOpps,[12] the federal government's online platform for contracting opportunities. Avoiding publication of the call for tenders can reduce competition from non-favored companies. Permission to bypass FedBizOpps is granted by agency officials (Manuel 2011).
3. *Non-competitive procedure type*: whether the contract was awarded in an open and competitive procedure. If a contract is awarded by a procedure which is not fully open and competitive, for example, by direct award, it is easier to favor one company.[13]
4. *Non-open solicitation type*: whether the contract is awarded in a procedure type which minimizes buyer discretion such as sealed bid auction. When a contract is directly negotiated with a supplier or a quote is solicited from a preselected contractor, it is easier to set terms allowing the supplier to earn extra profit.[14]
5. *Contract modifications*: whether the contract undergoes modification post-award. Post-award modifications can be used to extract rents by changing conditions of performance, for instance, time to delivery, quality, or price.[15]
6. *Supplier tax haven registration*: whether the supplier (typical country of origin in our supplier groups as described above) is registered in a tax-haven as defined by the Tax Justice Network's scoring of banking and corporate registry transparency (Tax Justice Network 2013). When a share of profits won is channeled back to politicians, secrecy is paramount, and a tax haven registered company in the supplier's ownership network facilitates favoritism.
7. *Supplier debarred*: whether the supplier (or any of its linked entities in our supplier groups as described above) has appeared on the official debarment list of the Office of Federal Contract Compliance Programs in our observation period. Debarment is often made on the basis of falsifying information, bribery, or colluding with public buyers to manipulate competition.

Taken individually, these risk indicators do not necessarily signal favoritism. Indeed some components, such as single bidding and contract modification are relatively frequent (figure 1). Such risk factors may stem from a range of legitimate reasons such as product complexity and specificity (i.e., the requirements of the buyer permitting only one company to bid, see Brunjes 2020), or compelling urgency (i.e., bureaucratic error leading to shortened timeline necessitating a noncompetitive award), or unanticipated shocks prompting delays and increases in cost at the execution stage. We argue that, while individually no component of the FRI necessarily indicates favoritism *per se*, the concurrent presence of many red flags captures an underlying risk of favoritism.

Aggregating those binary indicators into a composite index is not straightforward. Taken individually, each indicator is a weak signal of favoritism and it is unclear how those indicators interact. They may act as complements, implying that more risk factors signal more favoritism. They may also act as substitutes, whereby some methods of favoritism make others unnecessary (e.g., if the contract is awarded without competition there is no point manipulating scoring criteria).

In light of these challenges, we turn to factor analysis to aggregate those binary indicators into a composite index. Since corruption is best characterized as a latent dimension influencing the variation of all corruption strategies throughout the procurement cycle, factor analysis is a natural way of exploiting such variation.[16] We use a weighted composite score based on factor loadings as the main dependent variable in the subsequent analysis. Exploratory factor analysis results, reported in online appendix A, suggest that one dimension best captures the underlying variance, with three factors a viable alternative (online appendix figure A1).

We use weights from our one-factor specification to define what we will call the "favoritism risk index" [FRI—adapting terminology from composite scores in the literature like the corruption risk index (CRI)]. Figure 1 shows the distribution of the FRI, and the prevalence of each its individual components. We prefer this specification because it is parsimonious and most coherent conceptually. Indeed, the factor loadings from this specification capture manipulation of both the tendering and award phases, with large weights on non-publication of call for tenders, noncompetitive procedure, non-open solicitation, and single bidding (online appendix table A5).[17] This formulation of the FRI aligns with our hypothesized impact mechanism of political appointees in federal agencies manipulating tenders and award. Such actors have less control over contract implementation.

We check the validity of our construct in several ways: by showing consistency with results in relevant literature on the United States and the OECD; by showing micro-level validity

[12] https://www.fbo.gov/.

[13] The following procedure types were considered as noncompetitive (FPDS-NP database codes in parentheses): Not Available for Competition (B), Not Competed (C), Follow On to Competed Action (E), Not Competed under SAP,(G), Competitive Delivery Order (CDO), Non-Competitive Delivery Order (NDO).

[14] The following solicitation types were coded as competition-restricting (FPDS-NP database codes in parentheses): Alternative Sources (AS), Simplified Acquisition (SP1), and Only One Source (SSS).

[15] Specifically, we coded a contract as modified if any modifications marked with FPDS-NP codes A ("Additional Work") or B ("Supplemental Agreement for work within scope") appear in the contract history. These two modification types are the most common and flexible ways to modify contracts with a potential effect on the profit made from them, without requiring significant additional justifications.

[16] Due to the binary nature of our risk indicators, our estimation uses exploratory factor analysis (minimum residual solution) with tetrachoric correlations.

[17] Weights are very small and negative for modifications, suggesting that post award manipulation is complementary to tender and award manipulation. Weights are also small and negative for supplier risk indicators, debarment and tax haven registration, again suggesting that these manipulation strategies are complementary.

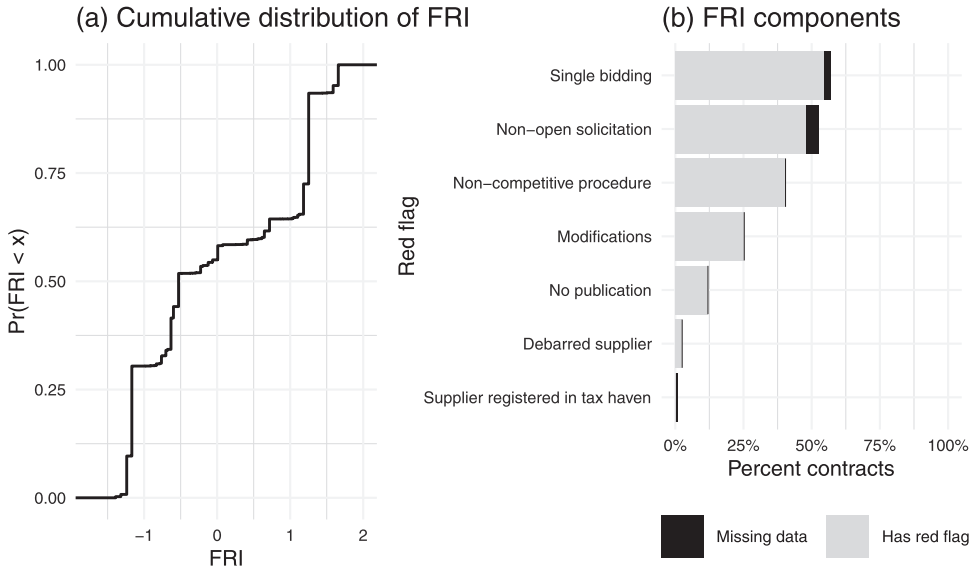

Figure 1. Descriptive Statistics About the FRI

relating them with theoretical predictions regarding corruption in US procurement; by correlations with corruption perceptions in the United States; and by highlighting that our results are robust to alternative constructions of the FRI.

Previous work on political influence in government contracting in the United States and Europe demonstrates that high-level actors in government do interfere in the contracting process for political purposes. Most relevant is Gordon's (2011) study of the George W. Bush administration's presentation to representatives from the GSA, a large government buyer, urging them to channel extra spending to congressional districts held by at-risk Republican incumbents. Gordon's findings indicate that this pressure resulted in a significant increase in the dollars obligated by the agency in those districts, but no increase in the number of contracts awarded. Single bidder contracts were more likely to see an increase in dollars obligated while multiple bidder contracts remained unchanged. Similarly, research from Sweden, Italy and Central and Eastern European countries have used such indicators to study corruption (Broms, Dahlström, and Fazekas 2019; Coviello and Gagliarducci 2017; Fazekas and King 2019; Wachs et al. 2019). These corruption proxies perform well in countries with comparable levels of public sector integrity (Charron et al. 2017).

Second, microlevel validity of the proxies can be tested by exploiting the relationships among them. That is, we expect single bidding to be predicted by risk factors of the tendering process and to be positively associated with risks in later stages of contract execution. Regressions confirm that single bidding is predicted by the contract-based elementary indicators (online appendix table A2), replicating findings from the EU (Fazekas and Kocsis 2020). We also observe that tax haven registered firms are more likely to win single bid contracts.

Third, the validity of FRI is further supported by its association with survey-based perceptions indicators at the US state level. We test three such indicators: (1) Corruption in American States Survey of Reporters (2014)[18]; (2) a survey of State House reporters measuring corruption in state governments (1999) (Boylan and Long 2003), and (3) GALLUP Perception of Corruption survey aggregated to the state level (2006–14) (Brezzi and Ramirez 2016). Simple bivariate correlations are confirmatory for all three sources, albeit not particularly strong (0.2–0.3) (online appendix table A4).

Fourth, we verify that our results are robust to alternative constructions of the FRI. We consider a binary indicator tracking single bidding and noncompetitive contract awards (following Dahlström, Fazekas, and Lewis 2021). Second, we use simple average of all seven binary indicators (Fazekas and Kocsis 2020). Third, we use the first factor of our three-factors specification. These three measures strongly correlate with one another and with the primary FRI (0.84–0.98) (online appendix table A3 and appendix C.8).

Campaign Contributions

We define several variants of the donation variable. We consider the sum of political donations by the firm in the current and previous congressional terms, relative to the contract signing date. We also consider a dummy variable for whether the supplier has donated at all. We construct similar measures of donations to the party in the White House and the opposition, to test whether contributions to former increase risk more than donations to the latter.

Agency Independence

We measure agency politicization by tracking agencies' structural insulation from political inference (Selin 2015). Following Dahlström, Fazekas, and Lewis (2021), agencies are categorized from most to least politicized into (1) Executive Departments (not separate bureaus); (2) Executive Departments (distinct bureaus); (3) Independent Administrations (agencies structured similar to executive departments but not part of the cabinet); and (4) Independent Commissions and Regulatory Commissions. While structural independence is static in our observation

[18]https://ethics.harvard.edu/blog/measuring-illegal-and-legal-corruption-american-states-some-results-safra.

period, it is relevant to the mechanism postulated by our theory. Independent Commissions and Regulatory Commissions, for example, the Federal Reserve Board, are least likely to have political appointees determine agency contracting. We use a coarsened two-category version (i+ii versus iii+iv) to keep the interacted regression tables tractable. We also report the four-category version in the online appendix C.7.

Methods

Assessing whether political donations *cause* favoritism in public procurement is challenging. Natural experiments in this setting are rare. Large firms are highly strategic actors that scarcely make donations as-if-randomly. Furthermore, rules surrounding federal donations are largely uniform over the period and industries studied, preventing us from leveraging discontinuities around regulatory change. Most credible correlates of political donations likely also have an effect on favoritism, making the use of instrumental variables difficult. Previous work exploits close elections to implement a regression discontinuity design in this context (Brogaard, Denes, and Duchin 2016). While these approaches are strong on internal validity, we question their external validity in our context as there are relatively few close Congressional races in the United States, narrowing down the sample drastically (i.e., from hundreds of thousands of observations to a few hundred). Instead, our approach takes advantage of the breadth of the data by making narrow comparisons using a range of fixed effects, and supplement these with a wide array of robustness checks. Nevertheless, our results are largely consistent with prior research when using an RDD approach.

Before testing our three main hypotheses, we check whether politically connected firms receive higher procurement income than nonpolitically connected firms. Checking that our data echoes the finding that donor firms are awarded a higher total contract value (Witko 2011)[19] is an important prerequisite, for this underpins important issues of selection. Indeed, suppose that politically connected firms are awarded contracts on a less transparent basis (i.e., hypotheses 1–3 hold), but that those same firms are awarded less contract value overall. Then it is unclear whether politically connected firms actually benefit from political favors. Clear-cut results should either indicate that (1) hypotheses 1–3 are verified and politically connected firms are awarded more revenue than non-connected firms, or (2) that those hypotheses are not verified and politically connected firms are awarded no more revenue. Lastly, we test our purported mechanism underlying hypotheses 1–3: that political appointees favor politically connected firms. The remainder of this section describes our approach in detail.

To assess whether politically connected firms receive higher procurement revenue, we aggregate our data at the firm and congressional term level and consider the total value of contracts awarded to the firm over the period. We examine whether firms that donate more receive more revenue. For firm i over congressional term t, we examine the following specification, estimated using ordinary least squares (OLS):

$$log(\text{revenue}_{it}) = \alpha_i + \beta \text{donation}_{it} + \gamma_1 log(\text{revenue}_{i,t-1}) + \gamma_2 log(\text{revenue}_{i,t-1})^2 + \epsilon_{it}, \quad (1)$$

with revenue_{it} the total revenue from contracts awarded to firm i during congressional term t (since the distributions of revenues and donations have long tails, we consider their log-transformations), α_i a firm-level fixed effect, and ϵ_{it} an error term. The variable donation_{it} refers to the donations effected by firm i during congressional term t.

We construct this variable in several ways. We consider a binary variable that equals 1 if firm i made any donation during term t, estimating the effect of making any donation on revenue. We then estimate separately the effect of large versus small donations. Our second approach uses the log of the total donation value made over the period. However, since donating companies are few (14% of company-congressional terms) and presumably qualitatively different from non-donating companies, estimating separately the effect of large versus small donations should focus exclusively on donating companies. As such, our modelling strategy includes log-donations and models non-donating companies explicitly via the donation dummy. This specification estimates the (log-) linear effect of donations, focusing exclusively on donating companies. Finally, we split the total amount of donations into a categorical variable with no- and low-value donations (our reference category) and intermediate and large donations.[20] Using supplier-level fixed effects, this specification compares, *for a given firm*, time periods in which the firm donated to time periods in which it did not. While this addresses concerns related to cross-firm heterogeneity, there might still be confounders correlated with time. We therefore control for lagged log-revenue, including non-monotonic effects using a quadratic term. As a robustness check (online appendix C), we introduce a congressional term fixed effect α_t. Since donations are aggregated by congressional term, we cluster standard errors at the firm and congressional term levels.

We then focus on our main hypotheses. Since the previous step of our analysis established how much contract value firms win, we look into how these contracts were awarded, *conditional on having been awarded*. This takes advantage of the granularity of our data by conducting analyses at the contract level. We address concerns related to omitted variable bias by controlling for important features of contracts and using a wide range of fixed-effects to make comparisons within narrow units. Specifically, we use buyer (buying office within the federal agency), state of contract performance, main industry of the purchased products (defined as the second level of the product code) and year of contract award fixed-effects. In other words, the effect of political donations on the risk of favoritism is identified by the variation within each public buying entity's contracting activities with a range of different suppliers in a specific place, industry, and congressional term. Making such narrow comparisons renders the assumption of no omitted confounders more credible while preserving variance both within and across suppliers. Our main specification, estimated using OLS, reads as follows:

$$\text{FRI}_{cijsmt} = \alpha_j + \alpha_s + \alpha_m + \alpha_t + \beta \text{donation}_{it} + \boldsymbol{x}'_c \gamma + \epsilon_{cijsmt} \quad (2)$$

[19]Please note that Witko (2011) uses number of contracts won to proxy total value of contracts won. We correct this deficiency by using total contract value won as dependent variable.

[20]We derive the thresholds used to construct these three categories from the data. See online appendix B for further details.

where FRI_{cijsmt} is the favoritism risk of contract c between firm i and contracting office j in state s, industry m, and congressional term t. The variable $donation_{it}$ is defined as in equation (1). The vector x_c contains individual controls including contract value, whether procurement was run by the GSA, whether procurement concerned a commercial item, and contract type, a variable that distinguishes between fixed-price, cost-plus, and other (the reference category) types of contracts. GSA-run procurement and commercial item purchases have somewhat different rules around competitive contracting. Similarly, fixed-price and cost-plus contracts impose different restrictions on payments from buyer to supplier during contract implementation. Controlling for these factors allows us to focus on administrative choices made within given regulatory frameworks. Finally, the terms α_j, α_s, α_m, and α_t are the vectors of fixed effects for contracting office, state, industry, and congressional term, respectively. Since firm donations are aggregated by congressional term, we cluster the error term, ϵ_{cijsmt}, by firm and congressional term.

We amend this specification to test for hypotheses 2 and 3. When testing hypothesis 2, we split donations according to the recipient party (Democrat/Republican), to examine whether donations targeted the incumbent or the challenger. For hypothesis 3, we interact donations with agency insulation categories.

Our preferred specification (equation 2) leaves two concerns unaddressed. First, our estimates might be affected by reverse causality; that is, the fact that a high FRI leads to high levels of political donations. Worries about reverse causality should be largely alleviated by the time lag between donations and receiving federal contracts. Furthermore, the possibility that our estimates capture the joint effect of donations on favoritism and of favoritism on donations is not problematic for our theory because it posits that there may be a circle of donations-contracts-donations among a tight-knit business and political elite.

Second, unobserved firm-level confounders might both affect the firm's amount of donations and favoritism outcomes. Given our extensive fixed effects, the only remaining source of confounding is firm-level characteristics. We address the issue first by reestimating our preferred specification on a matched sample constructed using Coarsened Exact Matching[21] (Iacus, King, and Porro 2012) (online appendix C.2), and by controlling for lagged firm revenue as proxied by the sum of contract values awarded over the previous congressional term (online appendix C.3).[22]

We perform a range of other checks. We reestimate our models using a sample that excludes defense agencies as the defense industry's political engagement and industry structure are uniquely shaped by federal government contracting (online appendix C.4). We reestimate our models excluding services and R&D contracts to check that our results are not driven by complex contracts heavily tailored to a supplier (online appendix C.5) (Girth and Lopez 2019). Nevertheless, in highly technical fields such as IT, initial product design choices can bake favoritism into the tender, while the formal tendering process looks completely regular [cf. "resource dependence" (Malatesta and Smith 2011)]. We also restrict our sample to firms donating to one party at least one order of magnitude more than to the other (online appendix C.6). Finally, we examine the effect of donations on three alternative constructions of the FRI (online appendix C.8, see Indicators section).

In the final step, we examine the main mechanism underlying our findings: are politically connected firms favored by political appointees? To do so, we leverage a threshold in procurement procedures which requires contracts above \$12.5m using noncompetitive procedures be subjected to additional scrutiny by a high-ranking agency official. This high-ranking official tends to be a political appointee (Manuel 2011).

This setting resembles an RD design, with an important caveat. Similar to the RD design, the setting features a threshold (\$12.5m) above which contracts are likely to be reviewed by a political appointee. We expect that such reviews reduce favoritism for nonpolitically connected firms and will have no impact on politically connected firms.

This setting violates an important assumption of the RD design: that there is no sorting around the threshold. Indeed, we hypothesize that political appointees not only subject politically connected firms to less scrutiny, but also introduce distortions at the contract design stage, using their influence to inflate budgets so that the contract lands above the threshold. As such, we expect that politically connected firms are awarded disproportionately many contracts immediately above the \$12.5m threshold.

First, similar to Daniele and Dipoppa (2019), we investigate whether donor firms indeed sort to the right of the threshold and non-donor firms do not, using a bunching approach (Kleven and Waseem 2013). We consider the distribution of contracts around the threshold, fitting a high-order polynomial. We check for sorting by looking into deviations from this polynomial to the right of the threshold for politically connected firms only. In other words, we construct a histogram over the range of contract values using a large number of small, equal-sized intervals v, both for donor firms ($d = 1$) and non-donor firms ($d = 0$).[23] We obtain, for each interval v, the count n_{dv} that counts the number of awarded contracts whose value falls within the bin for both donor and non-donor firms. We examine whether there is a significant deviation from this polynomial for contracts whose value lies within the interval I = [\$12.5m, \$13m]. This amounts to estimating the following model, using OLS:

$$n_{dv} = \sum_{k=0}^{n} \alpha_{dk} v^k + \beta_d 1\{v \subset I\} + \epsilon_{dv}, \tag{3}$$

with the α_{dk} terms fitting a polynomial of order n to the distribution,[24] and the term β_d capturing deviations from this polynomial. We expect $\beta_1 > 0$ and $\beta_0 < \beta_1$, capturing sorting among donor firms and less sorting among non-donor firms.

Second, we investigate whether contracts to the right of the discontinuity exhibit higher FRI, only for donating firms.

[21]We match contracts based on value, congressional term, state of performance, and contracting office.

[22]Our proxy for lagged firm revenue (i.e., the sum of contract values awarded over the previous congressional term) is admittedly poor. It underestimates true firm revenue, especially for those companies that do not rely heavily on public contracts. This is especially problematic since those companies are also presumably those who donate less. Since this specification heightens the risk of multicollinearity, we use lagged revenue to decrease such risk, and do not include it in our main specification.

[23]Specifically, we consider contracts whose value ranges between \$5m and \$20m, and construct bins of width \$25,000.

[24]We use a polynomial of order $n = 7$.

Table 1. Effect of Donations on Supplier Revenue

Variables	$\log(\text{revenue})_t$		
	(1)	(2)	(3)
Donation dummy	4.608	−0.674	
	(0.000)	(0.095)	
Log donation		0.641	
		(0.001)	
Med. donation			3.980
			(0.001)
Lrg. donation			7.309
			(0.007)
$\log(\text{revenue})_{t-1}$	−0.562	−0.560	−0.574
	(0.000)	(0.000)	(0.000)
$log(revenue)^2_{t-1}$	0.010	0.010	0.011
	(0.035)	(0.034)	(0.028)
Num. Obs.	99,961	99,961	99,961
R^2	0.545	0.546	0.538

Note: Political donations increase firm revenue (model 1). Larger donations increase firm revenue more (models 2 and 3). Models include supplier fixed effects. *p* Values clustered at the supplier and congressional term levels in parenthesis.

To do so, we employ the standard RDD approach, and estimate models separately for donating and non-donating firms. Of course, given that the assumptions underlying RDD are violated by sorting, these estimates cannot be given a causal interpretation. In other words, we cannot claim that higher scrutiny *causes* increases in the FRI for donor firms, since those firms sorted above the threshold.

Finally, we ascertain that our results are, at least partially, driven by political appointees by considering another threshold in contractual value ($650,000). Above this threshold, requests for noncompetitive procedures are submitted to additional scrutiny, but this scrutiny is typically not performed by political appointees (Manuel 2011). We repeat the analysis we conducted for the $12.5m threshold,[25] but expect to observe no differences.

Results

Impact of Donations on Firms' Procurement Revenue

We first show that our data reproduces a well-known pattern (Witko 2011): donating firms are awarded higher total contract value (table 1). We estimate three specifications of the model in equation (1). Donating firms received higher procurement revenue, irrespective of whether we separate donating firms from non-donating firms (model 1), a continuous specification of donations value (model 2), or a categorical specification that takes small to no donations as the reference category (model 3). In online appendix C.1, we show that results extend to separating donations to the majority and donations to the opposition (table A7): donations to the majority have a slightly higher effect on revenue than donations to the opposition, although results are not always statistically significant. We also show that both results are robust to adding congressional term fixed effects (online appendix tables A8 and A9).

[25]For the model in equation (3), we consider contracts of value ranging from $100,000 to $1.5m, with bins of width $2,500, and an interval I = [$645,000, $650,000].

Table 2. Effect of Donations on FRI (hypothesis 1)

Variables	Favoritism Risk Index (FRI)		
	(1)	(2)	(3)
Donation dummy	0.042	−0.301	
	(0.087)	(0.001)	
Log donation		0.032	
		(0.001)	
Med. donation			0.065
			(0.042)
Lrg. donation			0.278
			(0.001)
Num. Obs.	440,987	440,987	440,987
R^2	0.316	0.317	0.317

Note: Political donations increase the FRI (model 1). Larger donations increase the FRI more (models 2 and 3). Models include contracting office, state, industry, and congressional term fixed effects, as well as the controls discussed in Methods section. *p* Values clustered at the supplier and congressional term levels in parenthesis.

Main Results: Impact of Donations on the Risk of Favoritism

Having shown that donor firms receive more revenue through public procurement, we now evaluate hypotheses 1–3. Hypothesis 1 contends that firms' political party donations increase their risks of favoritism in federal contracting. Specifying our main model similarly to our test of the effect of donations on revenue (equation 2), we show that this hypothesis is supported (table 2). Donating any amount to any political party increases FRI by about 0.04 SD.

Models 2 and 3 in table 2 examine the effect of large donations. Figure 2 depicts the marginal effect of donations, derived from our continuous specification (model 2). We find that donations over $11,400 start to have a positive overall impact with risks increasing as donations increase. As such, a large increase in donations going from $1,000 to $5m increases the FRI score by 0.27 SD. Model 3 further investigates potential nonlinearities in the effect of donations, using a categorical specification that separates donations into bins. We used the $1,140 threshold for defining small donations, and considered a range of upper thresholds, picking the smallest value such that large donations have an effect that is significantly different from intermediate donations (online appendix B). Using a value of $5.6m to define large donations, we find that, compared to small donations, they increase the FRI by 0.28 SD. Robustness tests confirm these findings on matched samples, excluding defense contracts, excluding services and R&D contracts, only including donor firms donating to one of the parties, and considering alternative dependent variables.

Overall, combining results on revenue with results on hypothesis 1 shows that selection goes in the expected direction: donor firms do not only win more revenue, they also win contracts with higher risk of favoritism. However, while statistically significant, the identified effects are relatively small. Average effects may be diluted by pooling donations to the governing majority with donations to the opposition.

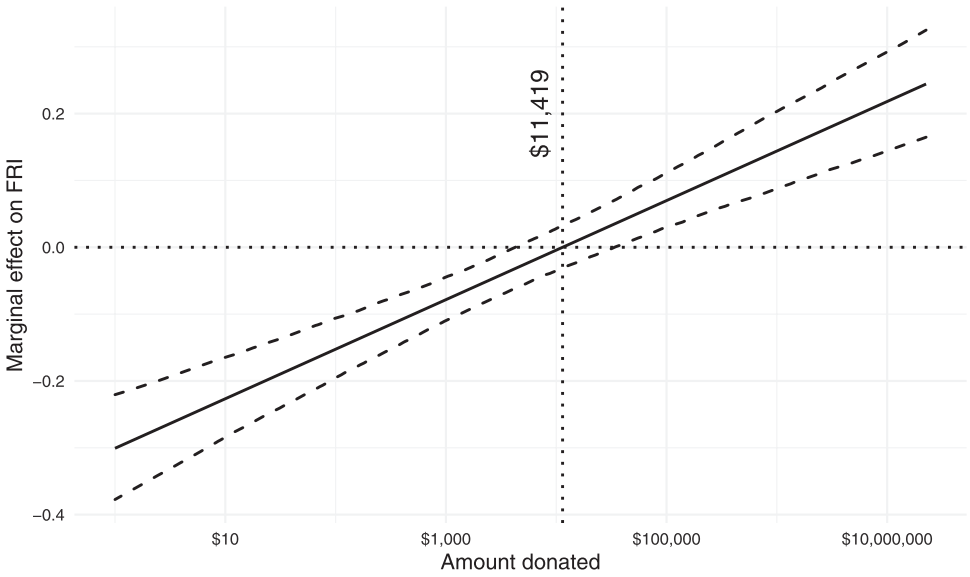

Figure 2. Marginal Effect of Donations on FRI (hypothesis 1)
Note: Higher donations lead to higher increases of the FRI. Dashed lines represent the 95% confidence interval clustered at the congressional term and supplier levels. This figure is constructed from model 2, table 2.

To test these arguments, we explore hypothesis 2, which states that the risk of a company being favored in federal contracting increases more if it donated to the party in power rather than to the opposition. We zoom in on the party that controls the presidency, since the President has extensive appointment and budgeting powers in the main spending agencies, representing a major impact channel as outlined in the theory section. Considering who controls Congress would make the analysis intractable due to how power is shared between actors and how party discipline may break down due to individual motivations.

Table 3 shows support for hypothesis 2, albeit only large donations seem to make a difference. Building on the previous results, we look at two variants of the donation predictor: (1) logarithm of the company's total donations to the governing party and the opposition, and (2) three categories of the donations distribution (small, intermediate, and large donation values) using cut-points defined through a similar process as for pooled donations (online appendix B). The continuous effect of donations to the party holding the presidency is positive and significant in both models 1 and 3, albeit donations to the opposition have a comparable effect in model 3. However, turning to the categorical variant of the donation predictor reveals that high value donations have a positive significant impact of substantial size. Donating a large amount to the party holding the presidency increases risks by 0.21 SD while large donations to the opposition have no significant effect on FRI. Robustness tests are largely confirmatory. Taking into consideration results on hypothesis 1 and that large donations to the president's party lead to a higher risk of favoritism in federal contracting (table 2, model 3), we suggest that most of the observed impact is driven by donations to those holding power. This result supports our interpretation that political appointees may facilitate favoritism.

That large donations to the majority increase the risk of favoritism while the same donations to the opposition do not has important implications when considering how firms make donations. Figure 3 examines the distribution of donations to the majority and the opposition, and reveals two types of firms: about 50% donates to one party, while the other 50% of firms donates rather equally to both parties. Yet, results from table 3 show that firms are rewarded for large donations to the party in power and are not punished for donations to the other side. As such, despite the highly partisan nature of US politics, donations exercise a much less divisive impact on firms' treatment in federal tenders. Furthermore, these findings align with extant results using an RDD approach, which show that firms donating to winning candidates in close elections are 1.6%–1.9% more likely to win noncompetitive contracts (Brogaard, Denes, and Duchin 2016).

We now turn to hypothesis 3, which states that firms' political campaign donations increase favoritism risk on the contracts they win when the awarding agency is less insulated from politics. To measure firms' donation activities, we draw on the variants introduced in hypotheses 1 and 2. We measure agency politicization as a structural feature with high (i.e., executive departments) and low (i.e., independent agencies) politicization categories. A more detailed, four-category scale is used as a robustness test in online appendix C.7 and table A23.

Table 4 shows strong support for hypothesis 3: all specifications reveal a positive interaction between donations and agency politicization, especially when donations go to the party of the president, indicating that donations have a larger impact on FRI when the awarding agency is more politicized. Figure 4 gives a graphical representation of the more detailed, four-category effect magnitudes using estimates from model 2 in table A23, which uses pooled, continuous donations. In the most politicized agencies, executive departments (Not Bureau), the impact of donations is about 2.5 times larger than in the least politicized agencies, Independent Commissions and Regulatory Commissions (figure 4). Looking at donations to the president's party versus any party, effect size differences support hypothesis 3: large donations (over $2.9m) increase favoritism risks by 0.32 SD—considerably larger increase than large

Table 3. Effect of Donations on FRI by party (hypothesis 2)

Variables	Favoritism Risk Index (FRI)			
	(1)	(2)	(3)	(4)
Donation dummy	−0.102		−0.161	
	(0.010)		(0.003)	
Log donation to majority (β_1)	0.017		0.011	
	(0.006)		(0.033)	
Log donation to opp. (β_2)			0.013	
			(0.001)	
Interm. donation to majority (β_1)		0.030		0.007
		(0.252)		(0.818)
Large donation to majority (β_3)		0.288		0.210
		(0.000)		(0.028)
Interm. donation to opp. (β_2)				0.031
				(0.155)
Large donation to opp. (β_4)				0.089
				(0.364)
Num. Obs.	440987	440987	440987	440987
R^2	0.317	0.317	0.317	0.317
H_0: $\beta_1 - \beta_2 = 0$			0.221	0.352
			(0.658)	(0.579)
H_0: $\beta_3 - \beta_4 = 0$				0.612
				(0.470)

The marginal effect of donations to the majority on the FRI is slightly higher than the marginal effect of any donation (models 1 and 2 versus models 2 and 3, table 2). Donations to the majority have a slightly higher effect on the FRI than donations to the opposition, although differences are not statistically significant (models 3 and 4, with corresponding *F* statistics and *p* values reported in the rows that begin with H_0). Models include contracting office, state, industry, and congressional term fixed effects, as well as the controls discussed in Methods section. *p* Values clustered at the supplier and congressional term levels in parenthesis.

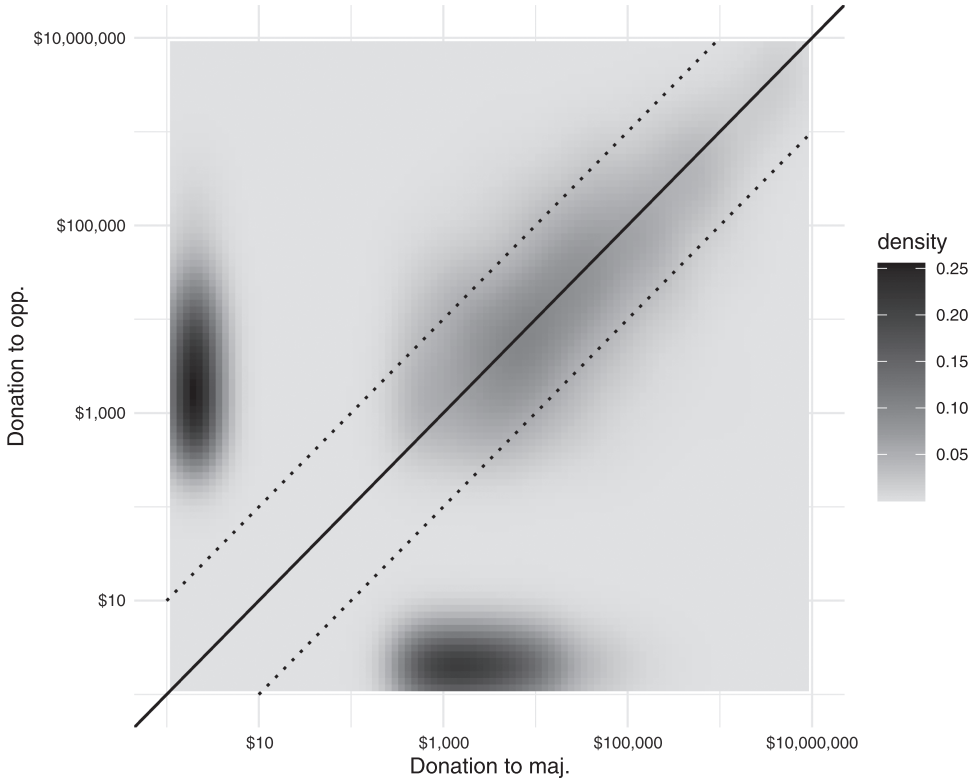

Figure 3. Density of Donations to Majority and Opposition
Note: About 50% firms donate exclusively to the majority or the opposition. The remaining 50% donates equally to both majority and opposition. The region between the dotted lines corresponds to donations to one party is within a ±10% range of donations to the other party, while the black line corresponds to donations that are equal for both parties.

Table 4. Interaction Effects Between Agency Politicization and Donations on FRI (hypothesis 3)

Variables	Favoritism Risk Index (FRI)				
	(1)	(2)	(3)	(4)	(5)
Donation dummy	−0.079	−0.297		−0.099	
	(0.051)	(0.001)		(0.010)	
Donation dummy × Cabinet/Exec. dep.	0.131				
	(0.006)				
Log donation		0.020			
		(0.007)			
Log donation × Cabinet/Exec. dep.		0.013			
		(0.007)			
Log donation to majority				0.001	
				(0.827)	
Log donation to maj. × Cabinet/Exec. dep.				0.016	
				(0.005)	
Med. donation			−0.080		
			(0.076)		
Lrg. donation			0.039		
			(0.767)		
Med. donation × Cabinet/Exec. dep.			0.156		
			(0.005)		
Lrg. donation × Cabinet/Exec. dep.			0.250		
			(0.134)		
Intermediate donation to majority					−0.094
					(0.061)
Large donation to majority					−0.022
					(0.859)
Med. don. to maj. × Cabinet/Exec. dep.					0.134
					(0.010)
Lrg. don. to maj. × Cabinet/Exec. dep.					0.324
					(0.056)
Cabinet/Exec. dep.	−0.120	−0.122	−0.116	−0.122	−0.119
	(0.111)	(0.106)	(0.121)	(0.105)	(0.115)
Num. Obs.	427,748	427,748	427,748	427,748	427,748
R^2	0.316	0.317	0.317	0.317	0.317

Note: Political donations impact FRI more when they target more politicized agencies. Models include contracting office, state, industry, and congressional term fixed effects, as well as the controls discussed in Methods section. *p* Values clustered at the supplier and congressional term levels in parenthesis.

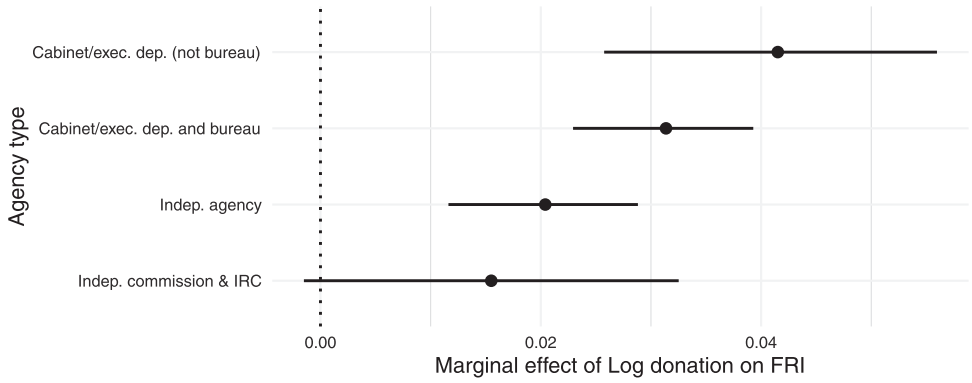

Figure 4. Marginal Effect of Donations on Favoritism by Agency Politicization
Note: Political donations lead to higher levels of FRI when contracts are awarded in more politicized agencies. The figure is constructed using estimates from model 2, table 29. Bars represent 95% confidence intervals clustered at the supplier and congressional term levels.

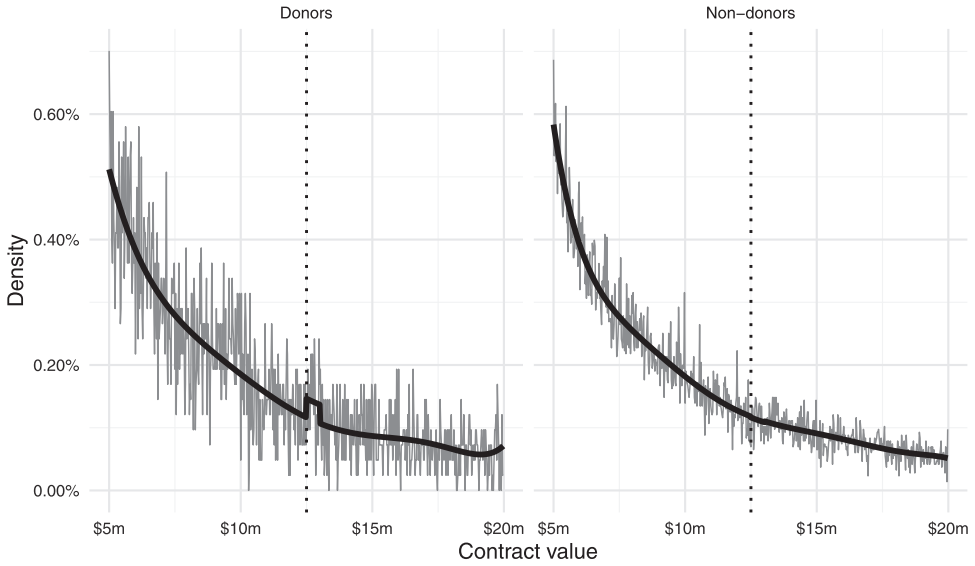

Figure 5. Sorting Around the Procurement Threshold
Note: Donor firms sort to the right of the $12.5m procurement threshold, while non-donor firms do not. The dotted line represents the $12.5m threshold, the thin line represents the distribution of contracts, and the thick line a polynomial fit of said distribution, as per equation (3). Estimates are derived from model 3 in table 5.

donations to any party (0.25 SD).[26] All robustness tests are confirmatory.

Considering our results on hypothesis 3 in the context of the two previous hypotheses, we conclude that the biggest influence of political donations on favoring donor firms arises when all necessary ingredients are in the right place: the donation is large enough to be noticeable for politicians, it goes to the side in power, and contracts are awarded in an agency which is has enough political appointees to execute favoritistic decisions.

Main Mechanism: Political Appointees' Discretion

We now investigate the main mechanism underlying hypotheses 2 and 3, that is political appointees utilizing their discretion in favor of donor firms. This can happen when a political appointee pressures contracting officers to estimate budgets so that sign-off from the appointee is required. This is most likely at the threshold where a few thousand dollars changes oversight requirements. If the appointee succeeds in influencing the tender's planned budget, they can approve a noncompetitive procedure or other processes facilitating contract award a donor firm. This implies that donor firms should be unusually likely to win just above the threshold and that FRI should be comparatively higher in those contracts.

As discussed in Methods section, we first consider the distribution of contracts around the $12.5m threshold, as contracts above this value are subjected to additional scrutiny by political appointees. Figure 5 shows graphical evidence of sorting in contracts awarded to donor companies, but not for non-donors. The left panel displays a large kink to the right of the $12.5m threshold, which is not visible on the right. Table 5 examines this statistically, both for the threshold of interest and for the comparison threshold of $650,000. While the coefficient β_0 is never statistically different from zero, the coefficient γ_1 is positive and significant when considering the upper threshold (models 3 and 4), indicating bunching to the right of the threshold for donor firms only. Correspondingly, the sum $\gamma_0 + \gamma_1$, which equals the coefficient β_1 in equation (3) is also statistically different from zero. This suggests distortions occur at the contract design stage in favor of politically connected firms.

Having shown that donor firms are more likely to be awarded contracts that put them under the scrutiny of political appointees, we now show that political appointees tend to subject those firms to relatively less scrutiny. Table 6 shows RDD estimates around the threshold of interest and the comparison threshold. We find that moving to the right of the comparison threshold decreases FRI by about 1/3rd SD for both donor and non-donor firms. This indicates that around this threshold, higher scrutiny decreases favoritism risk; specifically FRI decreases by 0.09 SD for non-donor firms, consistent with the expectation of increased scrutiny, but has no effect for donor firms. Political appointees tend to subject donor firms to less scrutiny than non-donor firms which supports our conclusions regarding the role of appointees in agencies with different degrees of politicization (table 4 on hypothesis 3).

Additional results suggest that political appointees favor politically relevant donors (those who donate medium to large amounts, online appendix D and table A33). When we consider donor firms making small donations to the party holding the presidency, we find no significant drop in FRI for both donor and non-donor firms around the $12.5m threshold, suggesting that political appointees are likely to exercise favoritism when it matters politically.

We conduct a series of robustness checks in online appendix D, including different bandwidths (online appendix figure A3). We find null results when considering different thresholds (online appendix figure A4).

[26]Note that since these specifications include purchasing office fixed effects, those interaction effects cannot be attributed to cross-office differences in the levels of FRI.

Table 5. Bunching Models

Parameters	(1)	(2)	(3)	(4)
Donor (β_1)	0.00000	0.00000	−0.00001	−0.00002
	(0.99162)	(0.97509)	(0.69975)	(0.64902)
In bunching interval	0.00004	0.00003	−0.00002	−0.00001
	(0.94811)	(0.95855)	(0.88571)	(0.92923)
Donor × in bunching interval (β_2)	0.00012	0.00034	0.00032	0.00045
	(0.88725)	(0.67353)	(0.05511)	(0.02365)
Num. Obs.	1,120	1,120	1,200	1,200
R^2	0.873	0.884	0.849	0.794
Threshold	$650k	$650k	$12.5m	$12.5m
Donor	Any	Mid-high	Any	Mid-high
$H_0 : \beta_1 + \beta_2 = 0$	0.071	0.420	6.612	9.706
	(0.791)	(0.517)	(0.010)	(0.002)

Note: The table reports estimates of the model in equation (3), omitting the parameters for the polynomial fit. We vary the threshold under consideration and the definition of a donor, considering, in turn, any donation to the party that holds the presidency, or intermediate and high donations to that party. The row H_0 reports the *F*-statistic and corresponding *p* values for the test $\beta_1 + \beta_2 = 0$. See Methods section for additional details about estimation. There is evidence of sorting to the right of the upper threshold for donor firms.

Table 6. Effect of Higher Scrutiny on the FRI

Parameters	Low Threshold ($650,000)			High Threshold ($12.5m)		
	Pooled	Donor	Non-Donor	Pooled	Donor	Non-Donor
Estimate	−0.323	−0.212	−0.329	−0.080	−0.024	−0.090
	(0.000)	(0.010)	(0.000)	(0.114)	(0.882)	(0.098)
Bandwidth (k$)	[−45; 542]	[−106; 2,718]	[−47; 562]	[−2,749; 116,239]	[−2,534; 223,427]	[−2,530; 132,211]
N	2,362	28,701	393,661	151,470	12,185	139,285

Note: Higher scrutiny decreases the FRI for both donor and non-donor firms around the low threshold. Around the high threshold, higher scrutiny decreases the FRI for non-donor firms only. This table reports RDD estimates using an asymmetric, mean-squared-error optimal bandwidth, in order to accommodate the left-skew in the contract value distribution. Donors are defined as firms having made medium to large donations to the party that holds the presidency. Robust *p* values in parenthesis.

Conclusion

We hope to have contributed to the long-standing debate on the impact of money in US politics with novel evidence on how campaign contributions can induce favoritism in federal contracting. Based on a principal-agent model, we hypothesized that company donations' impact on favoritism is strongest when political principals have a strong grip over their bureaucratic agents, in particular through appointees. To test our hypotheses, we combined data on federal contracts with registered campaign contributions for 2004–15. Addressing the perennial challenge in the field, that is measuring favoritism, we developed a proxy indicator specific to federal contracting, using factor analysis which captures a host of strategies employed by public buyers to favor firms. In the absence of random assignment or a natural experiment, we developed an elaborate regression model with an extensive range of fixed effects accounting for many unobserved confounders: buyer (buying office within the agency), state of contract performance, main industry of purchased products, and congressional term fixed-effects. We also run matching estimations.

We find supporting evidence for our hypotheses, confirming that favoritism is highest when political principals have a strong control over their bureaucratic agents. On average, company donations somewhat increase the risk of favoritism in government contracting, while big donations to the party of the president substantially increase these risks, especially when the awarding agency is highly politicized (i.e., least insulated from the president). Specifically, we find that a large increase in donations to any party going from $10,000 to $5m increase our FRI score by 0.28 SD. The effects are largely partisan: donating to the governing party has a larger impact. Company donations influence favoritism risks most when the federal agency is penetrated by political appointees: large donations to the president's party ($2.9m or more) add 0.43 SD FRI compared to small donations. Reflecting on how favoritism, campaign donations, and agency politicization interact, our findings suggest that the biggest influence of political donations on favoritism occurs when all necessary ingredients are present: the donation is large enough to be noticed by politicians, it goes to power holders, and contracts are awarded in an agency weakly equipped to withstand political pressure. We trace the main impact channel going through political appointees in the federal bureaucracy. Looking at a contract value threshold of $12.5m, above which the chance of a political appointee's involvement in contracting decisions increases, reveals that donors are more likely to be just above the threshold and are also subject to comparatively less scrutiny. Specifically, non-donor's risk of

favoritism decreases by 0.09 SD while the risks remain flat for donors across the threshold.

Our analysis has limitations which future research should address. First, we investigated degrees of independence from the president and the role played by presidential appointees without sufficient theoretical and empirical consideration for the role Congress plays in appointments. The interplay between the Presidency, Congress, and agencies in the politics of appointments has been shown to have a substantial impact on agency outcomes (Hollibaugh 2014). Second, we could only consider a narrow dimension of agency independence, that is independence from the president, without sufficient discussion of independence from politics more broadly (Selin 2015). Investigating the different dimensions and aspects of agency independence could further enrich our analysis of favoritism in agency contracting. Third, we had comparatively less data on contract implementation as opposed to tendering and contract award phases, and the post-award phase is crucial for contracting outcomes and favoritism (Petersen et al. 2019).

Despite these limitations, clear policy lessons can be drawn from our findings. When political party finance reform is not possible or when the evidence suggests it is ineffectual (Fazekas and Cingolani 2017), traditional bureaucratic reform may blunt the corrupting effect of money in politics: Weber is alive and well. Increasing the insulation of procurement officials from political pressure, supporting their professionalization, and monitoring risk indicators would likely limit the capacity of any president or party to favor donating firms through federal contracting (Charron et al. 2017).

Supplementary Material

Supplementary data are available at *Journal of Public Administration Research and Theory* online.

Data Availability

The full replication material for the article can be found at: https://doi.org/10.7910/DVN/3U07EE.

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