APPENDIX DOCUMENT

Selling Out?
Contingent Politicization and Contracting Risk
in U.S. Federal Procurements, 2001–2016

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1. Control Covariates and Tabular Reporting of Statistical Model Estimates Reported in the Manuscript

The estimates from the statistical models reported in the article control for a vector of political control covariates, a vector of vendor and contract characteristic covariates, plus both agency and year unit effects. This is critical since several other factors may be associated with the terms of government contracting. For instance, the degree of insulated decision-making within public agencies may be associated with improving the terms of government contracts. Both of Selin's (2015) measures of agency independence are employed. The first-dimension measure accounts for decision making independence of top appointed officials, while the second-dimension measure captures the level of *ex post* policy review capacity of public agencies. We also include a measure of agency professionalism, but including the percentage of staff coded as professional relative to the overall number of employees in the agency.[1] Several political variables are also specified to account for the relationship between different branches of government. A binary indicator capturing distinctions in contracting decision under unified party government (= 1) versus divided party government (= 0) is included in each model. Several congressional district level factors are accounted for in the statistical models (Kriner and Reeves 2015). Separate binary indicators account for whether the vendor's district is represented by a member of the House Appropriations or House Ways and Means committee, as well as for whether this district was a member of the House majority party. Additionally, we have included a binary variable for whether a vendor's district is represented by a member who had a close election

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[1] Data for 2001 – 2004 The Politics of Presidential Appointments; Lewis, D. E.; 2008, Princeton, NJ : Princeton University Press.

https://my.vanderbilt.edu/davidlewis/data/; 2005 – 2016, gathered from Fedscope, retrieved on January 27, 2017.

in the previous cycle (a difference of less than five percentage points between the top two candidates)[2].

Several contract-specific and vendor-specific characteristics are also included as model covariates. First, whether a contracting agent/vendor is located in Washington, D.C., Maryland, or Virginia is accounted for by a binary indicator (Yes: = 1, No = 0). Because government contracting decisions are shaped by the cultivation of longstanding relationships (Verkuil 2017: 67), contract vendors in close geographical proximity to the D.C. region may have advantages in terms of acquiring favorable contracting terms by being embedded within the federal government network. Given the historical relationship between the Department of Defense (DoD) and outside contractors, a binary indicator is specified relating to whether a contract comes under DoD (= 1), or not (= 0). Also, the vendor's size may favorably impact its ability to shape the terms of government contracts to its contracting advantage by shifting greater principal risk to the government. Vendor size is operationalized in two complementary ways. First, it is measured using an overall vendor economies of scale measure in the form of the natural log of the contracting agent's annual revenue in constant 2009 dollars. In addition, vendor size is measured as the natural log of the total value of contracts awarded to that vendor in constant 2009 dollars, plus positive unity. This measure captures the contracting agent's ability to garner U.S. federal contracts. The size of a particular contract may also improve its chances of receiving favorable contract structures vis-à-vis the government. This is measured as the natural log of the obligated dollars in constant 2009 dollars, plus positive unity (+1), associated with

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[2] Data for 2001-2012 gathered from: Alexander, Dan; Berry, Christopher R.; Howell, William G., 2015, "Replication Data for: Distributive Politics and Legislator Ideology", doi:10.7910/DVN/VR12G4, Harvard Dataverse, V1, Accessed: 3/13/2017. Data for 2012 – 2016 gathered from www.ballotepdia.org, accessed July 15, 2017.

each contract award that accounts for how the monetary value of contracts are associated with contract structure. A binary indicator accounts for distinctions between contracts that outsource goods (= 1) versus services (= 0) in each statistical model.

A pair of covariates relating to campaign contributions by employees and political action committees (PACs) associated with contracting vendors.[3] These include an indicator variable showing whether a vendor is associated with any donations to the current president, and also the natural log of the sum of all these presidential donations by the vendor (individual and PAC), plus positive unity. The expectation is that vendors that donate will be more likely to receive contracts that have beneficial terms for vendors, and hence, decrease risk for themselves while increasing risk for the government. Finally, each statistical model incorporates time-invariant agency characteristics and common time shocks unaccounted for by the remaining covariates in the form of both agency and year unit effects. The combination of these contract characteristics, vendor characteristics, agency-level differences, and common time shocks facilitate stronger identification for arriving at valid statistical inferences regarding the contingent politicization hypotheses advanced here.

APPENDIX TABLE A1

**Regression Model Estimates of Contingent Politicization Theory on
Low and High Government Contracting Risk for U.S. Federal Procurements
(*Supply & Cost Structure Combinations & Corresponding Time Commitments*)**

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[3] The individual and Political Action Committee donation data was gathered from the Federal Election Commission website, *FEC.gov* (*Retrieved: July 17, 2017*). This data was then systematically matched to government contractors using the employer field in the FEC data and company names in the contracting data using the "Fuzzy Match" algorithm in Microsoft Excel, with each match exceeding 85% certainty examined by one of the authors to determine if matching accuracy. The contributions were designated for those contracts in the subsequent presidential term.

Covariates	Probit Regressions	
	Multiple Bids & Fixed Costs	Single Closed Bids & Variable Costs
Baseline Covariates (Presidential Neutral Agencies)		
Appointee Politicization	0.017 (0.983)	2.437*** (0.686)
Executive Level	0.440*** (0.162)	0.229*** (0.057)
Executive Level Office × Appointee Politicization	−0.726** (0.314)	−0.035 (0.101)
Distributive Motive Covariates		
Presidential Aligned Agency	−0.862 (1.182)	3.198** (1.333)
Presidential Aligned Agency × Appointee Politicization	−1.190 (1.354)	−2.141*** (0.732)
Executive Level Office × Presidential Aligned Agency	−0.700*** (0.233)	−0.063 (0.151)
Executive Level Office × Presidential Aligned Agency × Appointee Politicization	1.349*** (0.478)	−0.155 (0.689)
Substitution Motive Covariates		
Presidential Opposed Agency	−1.376 (1.083)	3.660*** (1.342)
Presidential Opposed Agency × Appointee Politicization	0.379 (1.269)	−3.319*** (0.756)
Executive Level Office × Presidential Opposed Agency	−0.288 (0.188)	0.327** (0.143)
Executive Level Office × Presidential Opposed Agency × Appointee Politicization	−0.085 (0.521)	0.774** (0.376)
Agency Professionalism	1.235** (0.529)	−0.074 (0.653)

Political Influence Characteristics

Agency Decision Making Independence	0.833*	−1.270*
	(0.442)	(0.701)
Agency Policy Review Independence	0.267*	0.050
	(0.145)	(0.181)
Unified Party Government Binary Indicator	0.075	−0.559**
	(0.161)	(0.227)
House Appropriations Binary Committee	−0.057***	−0.044
	(0.017)	(0.034)
House Ways and Means Binary Indicator	0.104*	0.080
	(0.062)	(0.116)
House Majority Binary Indicator	0.008	−0.034
	(0.013)	(0.029)
Close Congressional Election Contest	−0.043***	0.017
	(0.012)	(0.069)

Contract & Vendor Specific Characteristics

Department of Defense Binary Indicator	0.843	−2.361*
	(0.751)	(1.333)
ln(Annual Vendor Revenue)	0.002*	−0.003*
	(0.001)	(0.002)
DC Area Vendor Binary Indicator	−0.041	−0.035
	(0.038)	(0.051)
Goods/Services Binary Indicator	−0.301	−0.624***
	(0.212)	(0.096)
ln(Vendor Total Contract Value + 1)	0.012	0.066***
	(0.012)	(0.017)
ln(Dollars Obligated + 1)	−0.012	0.069*
	(0.027)	(0.037)
Presidential Donor	0.466***	−0.167
	(0.088)	(0.168)
ln(Donation Amount to President + 1)	−0.058***	0.017
	(0.009)	(0.017)

Fixed Effects

Agency Unit Effects	Y	Y

Year Unit Effects	Y	Y
Product-Service Specific Unit Effects	Y	Y
R²	0.134	0.262
N	1,094,254	1,091,070

Note: Robust standard errors clustered on agency appear inside parentheses. The dependent variable for *Multiple Bids & Fixed Costs* is a binary indicator where a contract receiving multiple bids and was structured with fixed costs equals 1, and all others are 0. In the second model, the dependent variable is a binary indicator denoting a contract exempted from competition and structured with variable costs (*Single Closed Bids & Variable Costs*) equals 1 and all others are 0.
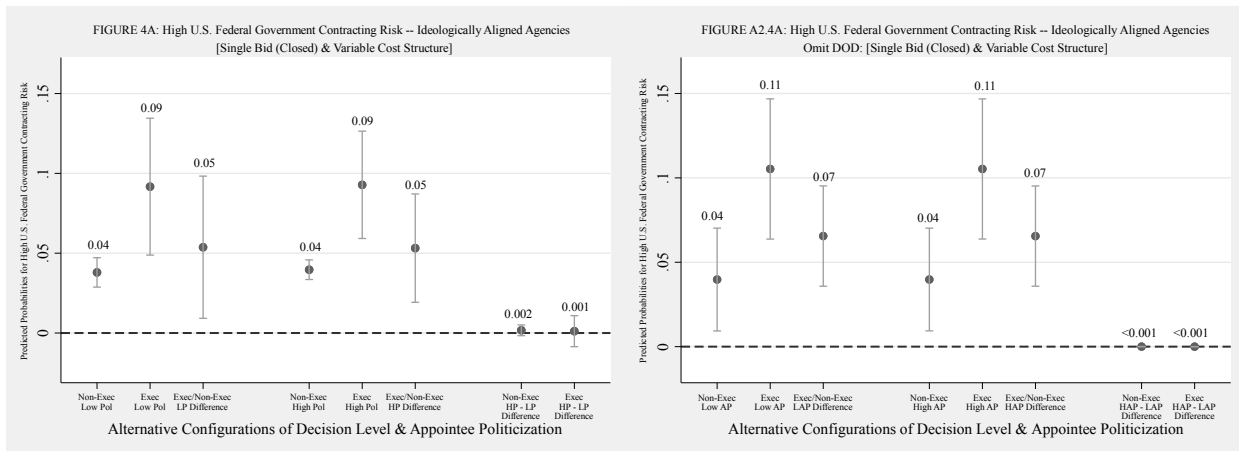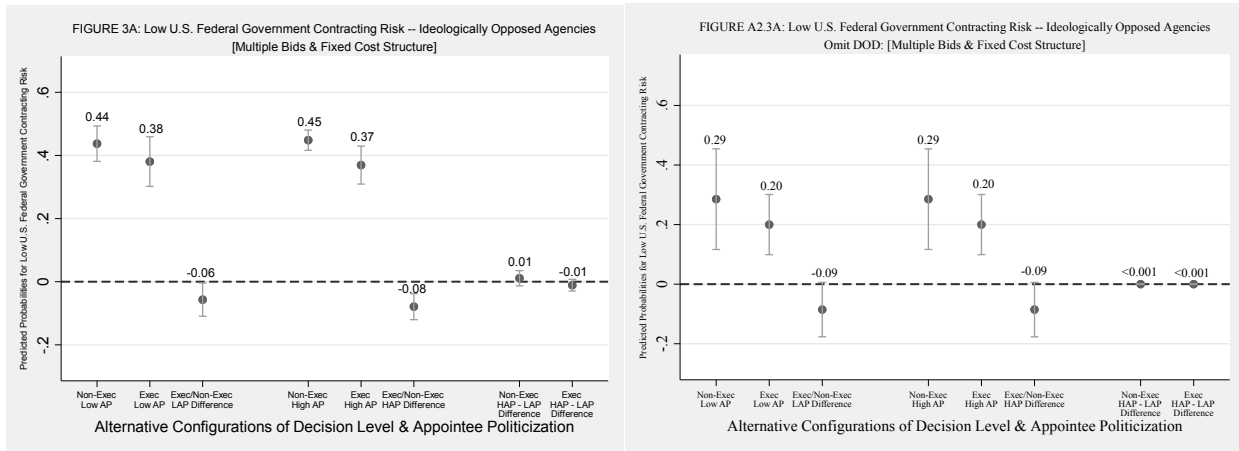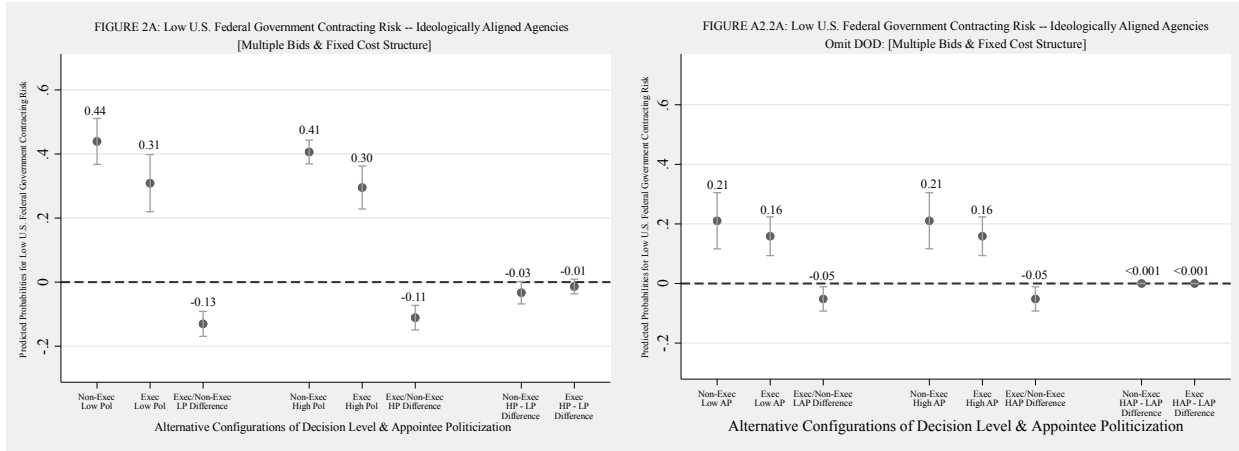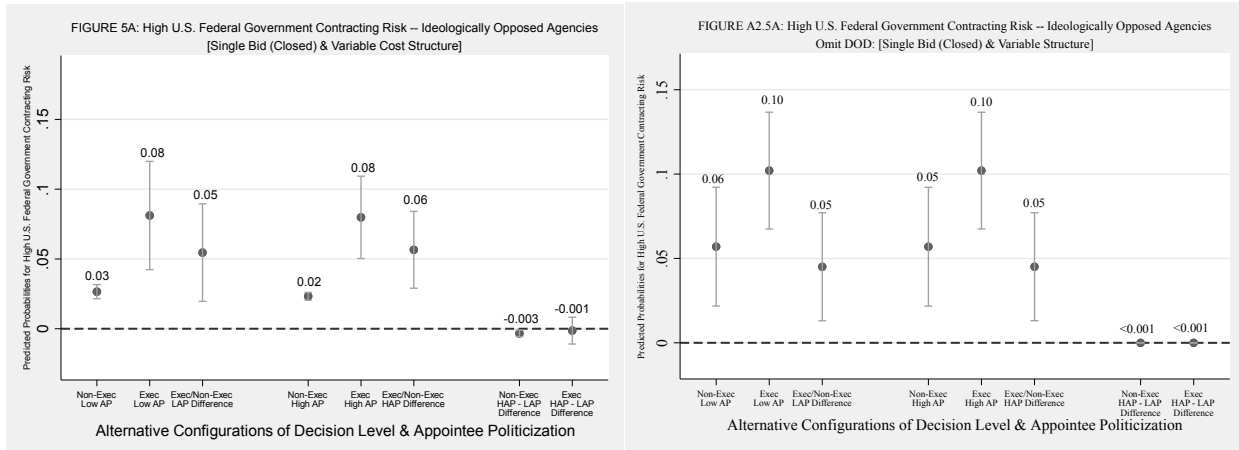
[***] $p < 0.01$ [**] $p < 0.05$ [*] $p < 0.10$.

2. Comparison of Full Sample Estimates to Those Omitting Department of Defense (DoD) Contracts

An analysis was conducted that omitted Department of Defense (DoD) contracts from the effective samples to evaluate how Defense agency contracts may impact the results centered on contingent politicization thesis advanced in the article. The rationale for this alternative set of analyses is simple. The U.S. Government Accountability Office (GAO) found that the department lacked quality management and business practices regarding procurement, and often selected vendors out of convenience because they were a known quantity rather than fully exploring a competitive process (U.S. Government Accountability Office 2007). Furthermore, the Department of Defense gives out a large proportion of the quantity and value of all contracts (Dahlstrom, Fazekas, and Lewis 2021). Those firms that tend to receive a disproportionate share of these contracts experience little market or government repercussions when investigated for committing fraud, waste, and abuse (Karpoff, Lee, and Vendrzyk 1999). It is therefore important to consider how contingent politicization impacts non-defense contracts – although this is statistically accounted by employing a simple binary covariate in the regression model specifications employed to generate estimates displayed in the article.

FIGURES A2.2A, A2.2B, A2.4A, & A2.4B

(Full Sample of Contracts Versus Only Non-Department of Defense Contracts)

FIGURE 2A: Low U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies [Multiple Bids & Fixed Cost Structure]

FIGURE A2.2A: Low U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies Omit DOD: [Multiple Bids & Fixed Cost Structure]

FIGURE 3A: Low U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies [Multiple Bids & Fixed Cost Structure]

FIGURE A2.3A: Low U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies Omit DOD: [Multiple Bids & Fixed Cost Structure]

FIGURE 4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies [Single Bid (Closed) & Variable Cost Structure]

FIGURE A2.4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies Omit DOD: [Single Bid (Closed) & Variable Cost Structure]

FIGURE 5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies
[Single Bid (Closed) & Variable Cost Structure]

FIGURE A2.5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies
Omit DOD: [Single Bid (Closed) & Variable Structure]
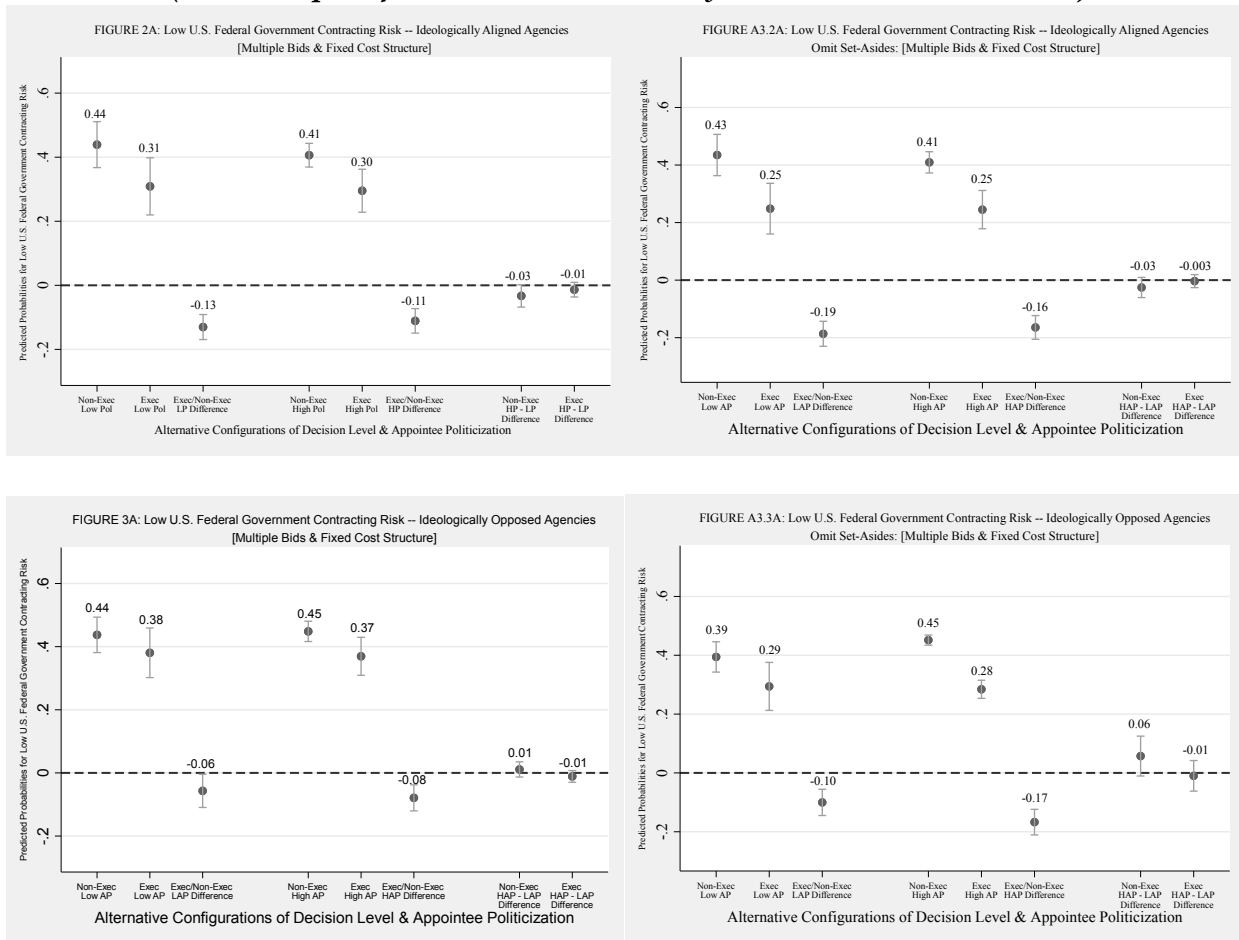
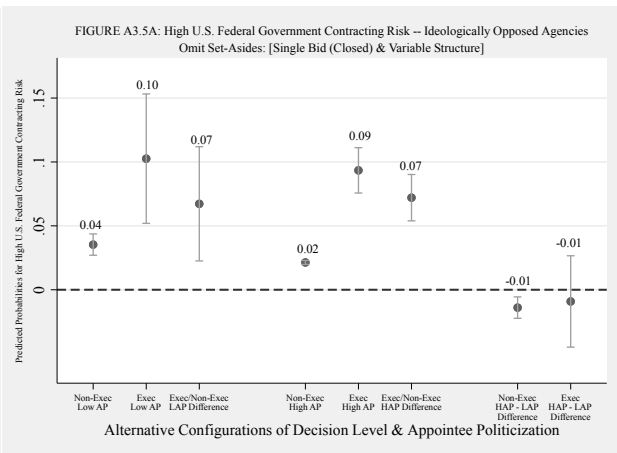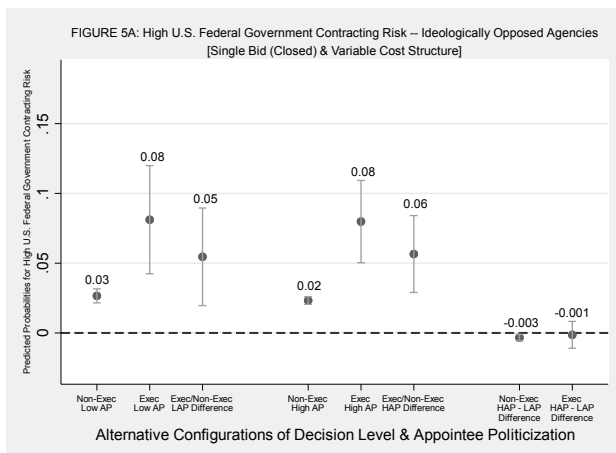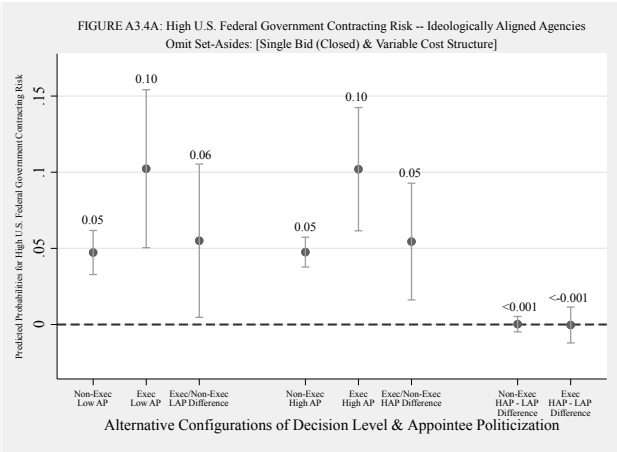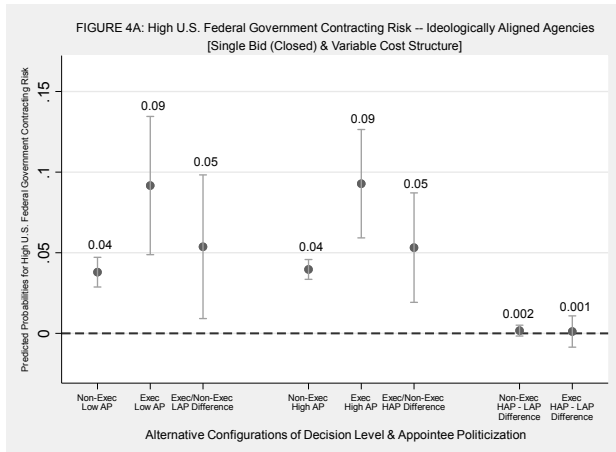## 3. Comparison of Full Sample Estimates to Those Omitting Set Aside Contracts

Additional analyses are conducted omitting the comparatively small fraction of Set Aside procurement agreements from the full sample to evaluate the extent the contingent politicization thesis is altered by exclusion of these class of contracts. Set Aside contracts are meant to "award certain acquisitions exclusively to small business concerns" (*FAR 19.501*). These set-asides contracts are potentially open to "*small business, 8(a) participants, HUB Zone small business concerns, service-disabled veteran-owned small business concerns, and economically disadvantaged women-owned small business (EDWOSB) concerns and women-owned small business (WOSB) concerns.*" (*FAR 19.000*(a)(3)). Set aside contracts are mandated by the Small Business Administration (SBA) and the requirements and goals for each agency are negotiated between the SBA and a specific department. This means that these contracts receive extra attention both within the agency, but also the SBA is required to report to the president and Congress on each agencies progress in meeting the goals (Cullen 2012). Set-aside contracts represent a unique situation where agencies are under tremendous pressure to meet their goals, but the program is fraught with problems. In efforts to meet goals, agencies will issue set-aside

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contracts to large companies, which violate the intent of the program. Additionally, on the

vendor side, contractors have been found to fraudulently identify as qualifying for these

contracts (Cullen 2012), which increases the potential of risk for the government in working

with suspect contractors.

FIGURES A3.2A, A3.2B, A3.4A, & A3.4B

(Full Sample of Contracts Versus Only Non-Set Aside Contracts)

FIGURE 4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies [Single Bid (Closed) & Variable Cost Structure]

FIGURE A3.4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies Omit Set-Asides: [Single Bid (Closed) & Variable Cost Structure]

FIGURE 5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies [Single Bid (Closed) & Variable Cost Structure]

FIGURE A3.5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies Omit Set-Asides: [Single Bid (Closed) & Variable Structure]

4. Comparison of Single Bids & Variable Cost Structures: Closed Single Bids Versus Open Single Bids
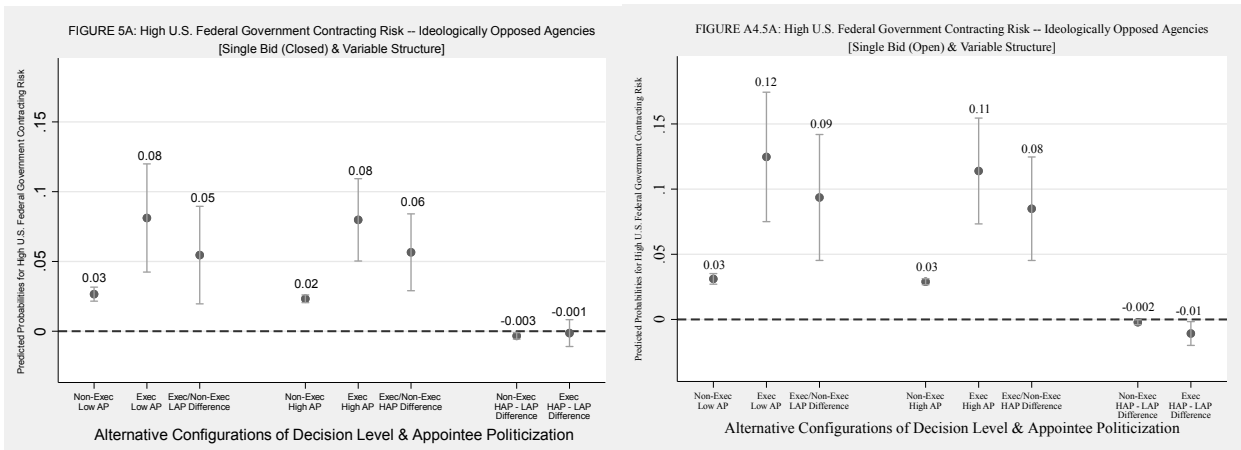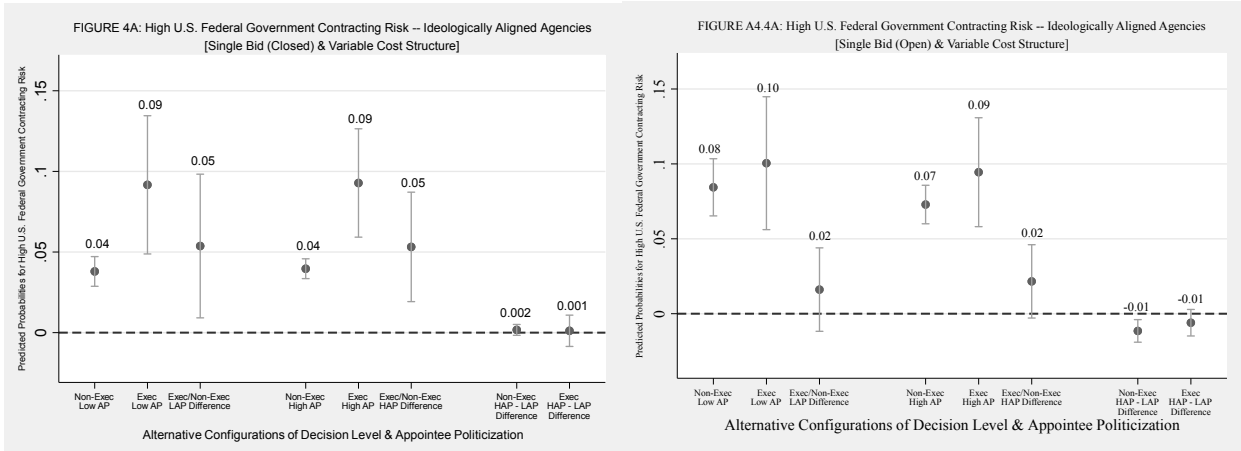
In this section, we compare the basic distinction between unfavorable contract

designs based on *closed* single bids versus those with *open* single bids. This is an

important distinction. Technically, these are two distinct processes. In a closed single bid

situation, the agency has deliberately decided to only negotiate with one vendor and do not

entertain a competitive process. For a no-bid process to be executed, additional higher-level

approval is required within the agency (Ivory 2013). While no-bids are intended to be used

only in emergencies, national security situations, and when a preliminary exhaustive

search has been done for other vendors (U.S. Government Accountability Office 2014), it is

open for abuse and use to deliver contracts to preferred vendors. In an open process, in contrast, federal agencies are *actively* seeking out competition among vendors for purposes of attaining the best value for the government. When there is only a single bid, a variety of situations may have transpired. The simplest explanation is that there was truly only a single lone bidder on the contract. This often occurs for contracts targeted in rural areas or when the contract is particularly specialized. In some cases, it is possible that the agency has tried to rig the process using set-asides, limited response windows (Dahlstrom, Fazekas, and Lewis 2021), or specifications in the request for proposals to guide the contract to a vendor. In the next section, we omit set-aside contracts in supplementary analyses.

What we do know is that to enact a closed-bid process, the agency must undertake additional efforts to guarantee that the contract was delivered to a specific vendor. Because these efforts required appeals to higher levels within the agency, closed-bid process contracting decisions should be more susceptible to politicization. In the open-bid process, it is unknown whether the agency has sought to rig the process, or if the agency has acted in good faith but still only received one bid. The veil of a technically open process can still provide advantages for the government when negotiating the length of suboptimal contracts. For instance, the negotiation process prior to the actual bid may result in only a single vendor offering a formal bid, as others drop out once the requirements for the contract becomes clear (e.g., Brown, Potoski, and Van Slyke 2010). Because there are additional reporting and review requirements for no-bid (closed) award procedures, appointees are able to signal to contracting officers their preferred outcomes for these class of contracts, thus making them more susceptible to greater politicization in the awards process (Dahlstrom, Fazekas, and Lewis 2021).
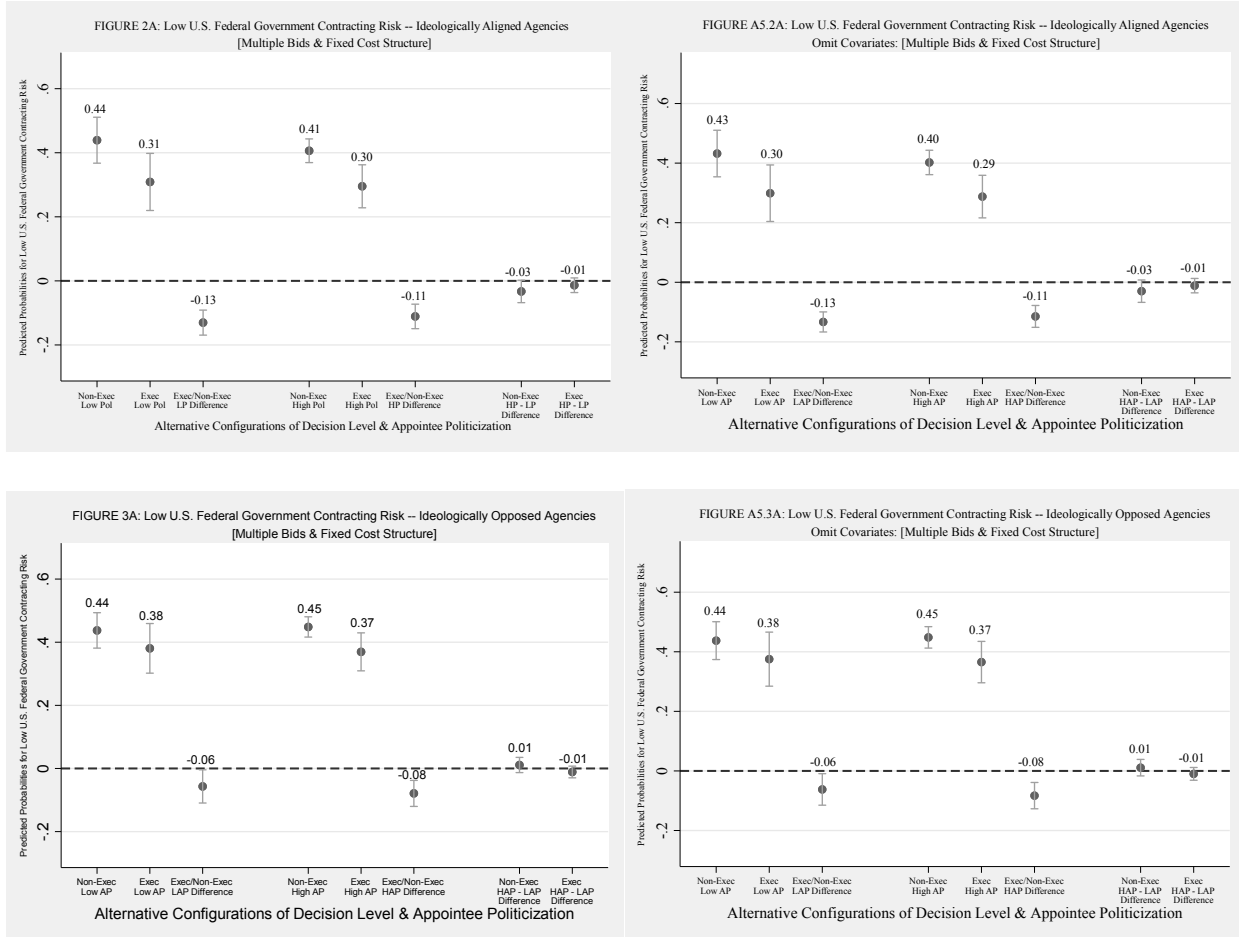
FIGURES A4.4A & A4.4B

(Closed Single Bids & Variable Costs Versus Single Open Bid & Variable Costs)

FIGURE 4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies
[Single Bid (Closed) & Variable Cost Structure]

FIGURE A4.4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies
[Single Bid (Open) & Variable Cost Structure]

FIGURE 5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies
[Single Bid (Closed) & Variable Structure]

FIGURE A4.5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies
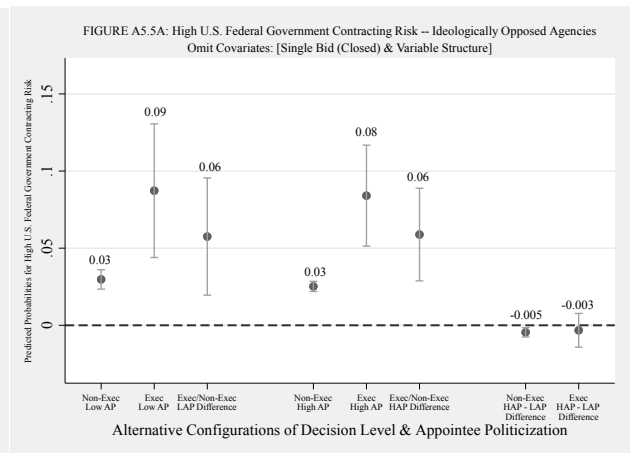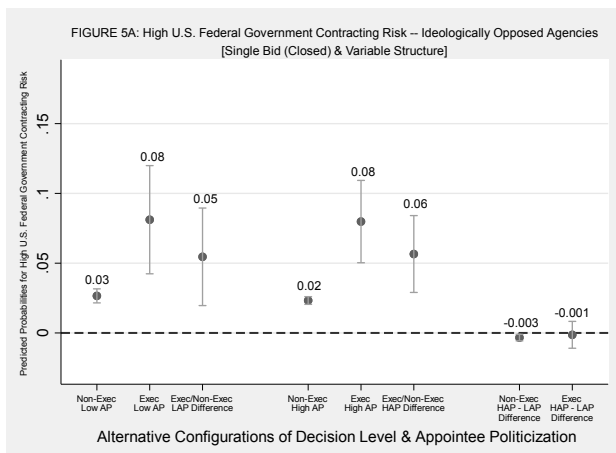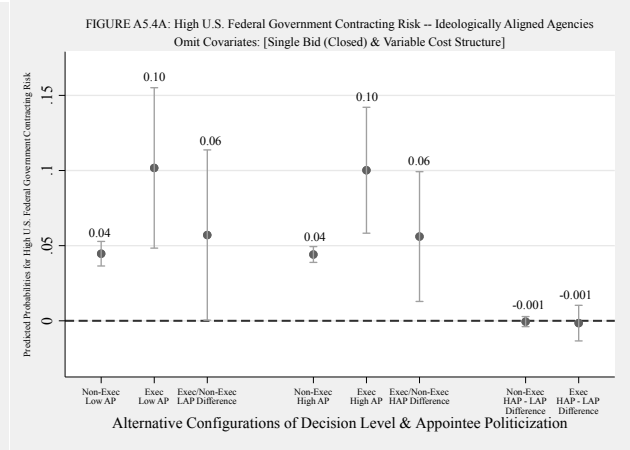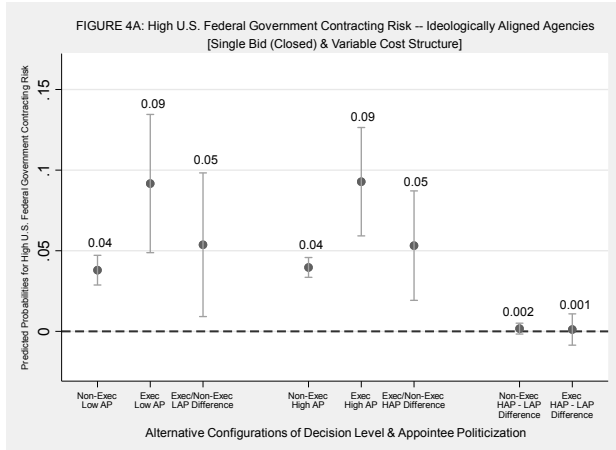[Single Bid (Open) & Variable Structure]

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5. Comparison of Reported Model Estimates to Those Omitting Control Variables [Except for Agency, Year, and FPSC Unit Effects]

FIGURES A5.2A, A5.2B, A5.4A, & A5.4B

(Reported Model Estimates Versus Omitted Control Variables

FIGURE 4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies
[Single Bid (Closed) & Variable Cost Structure]

FIGURE A5.4A: High U.S. Federal Government Contracting Risk -- Ideologically Aligned Agencies
Omit Covariates: [Single Bid (Closed) & Variable Cost Structure]

FIGURE 5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies
[Single Bid (Closed) & Variable Structure]

FIGURE A5.5A: High U.S. Federal Government Contracting Risk -- Ideologically Opposed Agencies
Omit Covariates: [Single Bid (Closed) & Variable Structure]

6. Comparison of Alternative Mechanisms for Explaining Contract Design Quality: An Analysis of Akaike Information Criteria (AIC) and Bayesian Information Criteria (BIC) Model Fit Statistics

The Akaike and Bayesian Information Criteria model fit statistics (AIC, BIC) for both the contract design and contract length regressions consistently demonstrate that the contingent politicization models reported in the manuscript provide a superior fit to these U.S. federal procurement data compared to the model specifications that reflect alternative mechanisms to understand why the U.S. federal government enters into both favorable and unfavorable contracts, and how long they are committed to each type. That is, the reported estimates in the manuscript are based on statistical models that yield the lowest AIC and

BIC statistics in all instances, and the proposed 'rule of thumb' minimal 10 point gap

threshold for the BIC statistic (see Raftery 1995) is exceeded by a minimum of a 247.6 point

gap across these alternative mechanism models. The 'second best' model fit statistics among

these alternative model specifications are denoted by the red typeface entries listed in

Appendix Table A2.

**APPENDIX TABLE A2: Alternative Two-Way Politicization Mechanisms
for Understanding the Design of U.S. Federal Procurements
(*Probit Regressions*)**

MODEL	Low Government Risk for U.S. Federal		High Government Risk for U.S. Federal	
	AIC	BIC	AIC	BIC
Reported Contingent Politicization	**1,282,895**	**1,283,360**	**257,225**	**257,641.6**
Appointee Politicization x Agency Decision-Making Level	1,287,653	1,288,118	257,812.9	258,229.5
Appointee Politicization x Agency Ideological Alignment Type	1,286,508	1,286,972	257,452.6	257,869.2
Agency Decision-Making Level x Agency Ideological Alignment Type	1,285,736	1,286,200	257,658.3	258,074.9
Appointee Politicization x Agency Insulation (Selin 1st Dimension)	1,288,475	1,288,952	257,617.3	258,033.9
Agency Decision-Making Level x Agency Insulation (Selin 1st Dimension)	1,288,419	1,288,883	257,826.6	258,243.2
Agency Ideological Alignment Type x Agency Insulation (Selin 1st Dimension)	1,287,844	1,288,308	257,779.5	258,196.1

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    dissertation. University of Pittsburgh. http://d-scholarship.pitt.edu/35225/.