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Moszoro, Marian and Spiller, Pablo

SGH Warsaw School of Economics George Mason University, University of California, Berkeley NBER

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Marian W. Moszoro and Pablo T. Spiller*

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Abstract

We analyze the implications of plausible third-party challenges to the legitimacy of a transaction for contract design. To the extent that such challenges impose reputation and transaction costs, the scrutinized agent has an incentive to choose contractual procedures that make challenges less likely to succeed at court, thereby discouraging the filing of challenges in the first place. The added contractual proceduralization, in turn, create adaptation costs for both the agent and the contractor which are externalized to the principals, making the transaction allegedly inefficient. This setup is of particular relevance in public procurement, where interested third parties—political opponents, excluded bidders, and watchdogs—are always present due to the nature of the transaction.

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*Moszoro (corresponding author): George Mason University, Department of Economics and Interdisciplinary Center for Economic Science; Email: mmoszoro@gmu.edu; Address for correspondence: GMU–Interdisciplinary Center for Economic Science, 3434 Washington Blvd, Arlington, VA 22201. Spiller: Haas School of Business, University of California, Berkeley, and National Bureau of Economic Research; Email: spiller@haas.berkeley.edu.

1 Introduction

The literature on contracts has focused on transaction costs and contractual hazards (Crocker and Reynolds 1993; Saussier 2000; Bajari, Houghton, and Tadelis 2014), incentives and commitment (Laffont and Tirole 1993; Bajari and Tadelis 2001; Guasch, Laffont, and Straub 2008), incompleteness, verifiability, and reference points (Fehr, Hart, and Zehnder 2011; Halonen-Akatwijuka and Hart 2013), and relational contracting and the value of future business (Macaulay 1963; Baker, Gibbons, and Murphy 2002; Gil and Marion 2012) to explain contract features and the degree of discretion—e.g., the choice of first-price versus cost-plus (Crocker and Reynolds 1993) contracts or auctions versus negotiations (Bajari, McMillan, and Tadelis 2009)—but it has been largely agnostic about the implications of third parties for contract design.

Third parties are the players *tacitly* engaged, but not *formally* involved in a contractual relationship—e.g., watchdogs, minorities, advocacy groups, consumers, past and future transactors, and opponents and competitors to the contractees—who may challenge, either informally through the media or formally in a court, the legitimacy of the transaction, which typically carries a costly demand for proof of the validity of the contracting process (Williamson 1999).

In McCubbins and Schwartz (1984) and McCubbins, Noll, and Weingast (1989), the monitoring of the agent is *outsourced* to third parties to save time and valuable resources. Third parties are desirable instruments of oversight, which take advantage of procedural mechanisms (i.e., "fire alarms") designed to hold politicians and public managers accountable.

In contrast, the pernicious effect of *opportunistic* third parties in public procurement and regulation has been highlighted by Spiller (2008, 2013) and Moszoro and Spiller (2012, 2014): Third parties increase the political risks of the incumbent politician, who increases contractual proceduralization to avoid successful challenges at court and externalizes the increased costs to the public at large.

In this paper, we extend the framework to the analysis of the implications of third parties for contract design. We also contribute with a set of proofs that in the presence of opportunistic third parties the agents will seek additional, but finite, contractual rigidity and applications to private quasi-political setups with multiple stakeholders (e.g., corporations).

2 Framework

Generally, a contract is a two-party agreement: it involves a contractee (i.e., project owner or buyer) and a contractor (i.e., vendor or seller). Third parties are the *tacit* parties that are not formally part of the contractual relationship: e.g., political opponents to a public administration, excluded vendors, and interest groups and watchdogs.

Private contracts may be more or less advantageous to the parties, but there is no legal nor economic reason for third parties to get involved in them. Private contracts only involve third parties in as much as they convey externalities (e.g., pollution).

On the contrary to purely private contracts, many contracts are subject to scrutiny and challenge at court by third parties, who may seek fairness and welfare (McCubbins and Schwartz 1984; McCubbins, Noll, and Weingast 1989; de Figueiredo, Spiller, and Urbiztondo 1999; Prendergast 2003; Spiller 1990; Spiller and Urbiztondo 1994), but also *opportunistically* cast doubt on the contract to replace one of the contractual parties (Spiller 2008; Moszoro and Spiller 2012).

Consider a contracting agent, a price-taker contractor for a standard product where quality is observable *ex ante*,[1] and principals who arrange for the agent to take a contract that is beneficial to the principals but costly to the agent, under circumstances when the principals cannot perfectly and costlessly enforce an *ex ante* promise by the agent to act in the best interest to the principals. Moreover, the principals are dispersed and not necessarily coordinated. For example, the principals to a public official are the public at large, and the principals to a manager in a large corporation are the stockholders who give mandate to the manager to run their business.

In addition, consider potential third parties with an interest in challenging the legitimacy of the transaction to tilt the field to their advantage. The third parties may be part of the principals' set (e.g., political opponents and excluded bidders can vote on electoral races; minority activist stockholders can put items to the vote and participate at stockholders' meetings). The agent is accountable to the principals who can be *opportunistically* misinformed by the third parties.

[1] I.e., there is a competitive market of contractors for a standard product.

The project features are given by the principals' needs, and can be treated as standard and exogenous to the agent: e.g., a road or a school in the case of a public agent, and market share and profit maximization in the case of a corporate manager. Interested third parties know that if the principals are dissatisfied by the agent' actions, they may replace her. Thus, these third parties scrutinize and submit opportunistic challenges to the principals, even when the agent is honest and efficient. The agent perceives the threat of potential third-party challenges: ultimately, she is the actor who bears the gross burden of successful challenges, imposed by the principals through loss of office and reputation. In anticipation, the agent will take precautionary actions to minimize third-party risks through contract design in such a manner that challenges will be more likely to be dismissed by the principals.

For example, consider a project D characterized by $k > 0$ irreproachable clauses and $l > 0$ dubious clauses at court such that $D = \{1, 2, \ldots, k, \ldots, k + l\}$, and a simple court technology, where a challenge is successful ($\tau = 1$) if the court randomly checks and finds a dubious clause. Thus, the *a priori* probability of a successful challenge at court is $\tau = l/(k + l)$. In a second stage before court, the politician can add $R > 0$ ancillary clauses or clauses that redundantly specify previous ones, but are indifferent at court, such that $D = \{1, 2, \ldots, k, \ldots, k + l, \ldots, k + l + R\}$. Thence, if a challenge is submitted to court, the *a posteriori* probability of a successful opportunistic challenge is $\tau = l/(k + l + R)$. Differentiating τ regarding R yields $\frac{\partial \tau}{\partial R} < 0$ and $\frac{\partial^2 \tau}{\partial R^2} > 0$. In other words, more rigidity clauses minimize the success of a challenge at court.

On the other hand, less adaptability indicates higher contracting and implementation costs, and therefore a higher price. I.e., contractual rigidity creates deadweight loss analogously to taxation. The proof follows to the proof of Harberger's triangle (Harberger 1971; Judd 1987).

Let $\eta_Q = -\frac{dQ}{dR}\frac{P}{Q}$ be the effect of a 1% increase in the baseline price due to a change in contractual rigidity dR on equilibrium quantity (i.e., the elasticity version of incidence formula). Let us further define adaptation cost K using change in quantity and change in price:

$$K = -\left(\frac{1}{2}\right) dQdR \tag{1}$$

i.e., the marginal adaptation cost K is equal to the *wedge* generated by the marginal quantity

demand loss dQ times the marginal increase in rigidity dR.

Multiplying both sides of equation (1) by equality $1 = dR/dR \cdot P/Q \cdot Q/P$:

$$K = -\left(\frac{1}{2}\right)\frac{dQ}{dR}\left(\frac{P}{Q}\right)\left(\frac{Q}{P}\right)dR \cdot dR \tag{2}$$

and plugging η_Q into equation (2), we obtain:

$$K = \frac{1}{2}\eta_Q\left(\frac{Q}{P}\right)dR^2 \tag{3}$$

Therefore, contracting and adaptation costs are increasing and strictly convex in contractual rigidity.

The equilibrium level of rigidity is achieved endogenously in a recursive manner: contract design triggers potential third-party challenges, the agent perceives this threat and adjusts contract design. The optimal contractual rigidity for the agent will be at the intersection of the marginal benefit from rigidity (i.e., lower likelihood of success of opportunistic challenges at court, and thus also lower likelihood of opportunistic challenges in the first place if submitting a challenge is costly) and the marginal cost of rigidity (i.e., higher cost to the principal). In the presence of opportunistic third parties the agents will seek additional, but finite, contractual rigidity.

In other words, third parties perceive the benefits of an opportunistic challenge with a probabilistic distribution and subject to the principals' sanctioning (e.g., through voting or court). The sequential equilibrium is that the agent will take some costly preventive action if that action makes it more difficult for the third parties to impose reputational, political, and transaction costs on the agent. The preventive action may be the inclusion of contractual provisions that safeguard the agent, but do not increase the efficacy of the transaction at hand. This is so because the cost of the action is not entirely borne by the agent, but externalized to the principals (via higher costs or taxes).

The direct implications are that, in the presence of opportunistic third parties, contracts are more rigid and more expensive than *comparable* purely private contracts. The comparability, though, comes with a caveat, because many contracts subject to third-party scrutiny do not have the counter-factual of contract without third-party scrutiny, and thus are only comparable to other contracts in their class.

3 Applications

3.1 Public Procurement

Prevailing theories explain public contracts' rigidity as an optimal choice to (a) foster price competition among firms for simple contracts, (b) account for higher investments at the project design stage for complex contracts (Bajari and Tadelis 2001), and/or (c) lower the risk of *ex post* renegotiation and alleviate a public agent's hold-up problem by imposing *ex ante* rigid limits on her ability to renegotiate contract terms (Boyne 2002; Prendergast 2003). In these theories, political risks are (tacitly) assumed away or considered insignificant. Third-party opportunism highlight a channel—which complements extant theories—of greater rigidities in public contracts relative to private contracts in politically contestable markets.

Public contracts are open to challenge by third parties because of the public interest and the public monies involved. A whiff of corruption and a concern for the misuse of other people's monies are all that is required to make a challenge to a public contract feasible (Spiller 2008). Although the awarding and performance of a public contract may be honest and legal, public agents fear politically motivated challenges[2] and therefore will *ex ante* adjust the nature of contracts to limit those features whose probity may be questioned. These adjustments will imply more contract specificity in design and more rule-based bureaucratic rigidity in implementation. Such contractual adaptations, however, come at a cost. Contractors' perceptions of contracts' specificity and rigidity (i.e., lower adaptability) will translate into higher prices and stronger compensation clauses. The contractual complexity and adaptation required to limit the potential for third-party challenges, whether opportunistic or not, make public contracting look "inefficient."[3]

A higher level of contract specificity and rigidity in public contracts can therefore be understood as a signaling device and political risk adaptation by public agents. However, it is not only civic-oriented legislation that limits public agents' discretionary actions with "red

[2] I.e., since the public at large cannot distinguish ultimately whether a challenge is honest or opportunistic, this distinction is irrelevant from the public agent's standpoint, who treats every challenge as a political threat.

[3] The political economy literature has shown the welfare effects of increased accountability provided by third parties. Both honest and opportunistic challenges may have positive welfare effects, e.g., lowering corruption. Our focus here is confined to a transaction-cost analysis of contractual features and price.

tape," but also that public agents hedge their exposure to the risk of third parties' challenges through contract formalities and rigidities: Although they could rightly impose flexible terms in their favor, they opt not to, and thus signal probity and avoid potentially steep litigation costs.

The third-party opportunism framework is explanatory of settings in which a public agent faces a trade-off between contract efficiency and political hazards. For example, a private company can hire whoever it wants on an employment contract that simply says "follow the instructions of your principal," whereas **bureaucracies** are subject to regulated hiring and lists of duties and responsibilities to reduce the risk of challenge of favoritism. Similarly, with closer third-party oversight and a fear of challenges of misuse of public funds, public agents may prefer fixed-price contracts in settings in which cost-plus contracts could prove to be more efficient.

Recent empirical studies support the view that the higher rigidity of public contracts is a political risk adaptation strategy carried out by public agents attempting to signal commitment and lower the likelihood of successful political challenges of misuse of funds. Moszoro, Spiller, and Stolorz (2016) and Beuve, Moszoro, and Saussier (2019) applied textual analysis to compare the features of contracts subject to public scrutiny (public-private) with relational private-to-private contracts and showed that public contracts are lengthier and have more rule-based rigid clauses. They also found that contract length and the frequency of rigidity clauses increases in political contestability. Similarly, Moszoro and Spiller (2019) show that mayors who face a higher risk of losing office are more likely to choose rule-based revenue bonds and competitive bidding as a sales mechanism (in comparison to flexible general obligation bonds and negotiated sales, respectively) to insulate themselves from referendum checks and allegations of impropriety, but at the expense of higher interest rates and administrative costs to the public at large.

3.2 Corporate Governance

A large corporation where interest groups with different (and not necessarily aligned) objectives interplay resembles to a bureaucratic organization. For example, whereas managers' discretion is subject to minority or external stakeholders' scrutiny, they may take *ex ante* otherwise dispensable legal precautions to avoid *ex post* penalties and litigation. Several court

sentences regarding fraudulent conveyance and minority buyout transactions are illustrative.

3.2.1 Fraudulent Conveyance[4]

The doctrine of fraudulent conveyance (or "fraudulent transfer") arises in Anglo-American bankruptcy law based on legal precedents that date back to a 16th century English statute[5] which made it illegal for a debtor to transfer assets with the intent to hinder, delay, or defraud his creditors. For example, under the law an insolvent farmer may not simply give his livestock to his brother to prevent lenders from seizing it to satisfy their claims. Modern extensions of the law make similar transfers illegal if they have the effect of defrauding creditors, even if there is no fraudulent intent on the part of the debtor.

This latter version of the law has been applied to LBOs, MBOs, levered recapitalizations, and spinoffs in the U.S. and U.K. (Simkovic and Kaminetzky 2011). The litigation arises when a highly levered transaction is followed by a bankruptcy filing. Impaired (usually unsecured) creditors may allege that the original deal constituted a fraud because it left the firm insolvent at closing or led inevitably to subsequent insolvency. Consequently, they may ask the court to go back and "undo" the deal—i.e., to reclaim for the benefit of creditors all funds (or other assets) distributed in connection with the original deal.

The simplest example is an LBO in which the firm borrows money to repurchase all equity from public shareholders. If the debt load is such that the surviving firm is rendered insolvent, then equity holders have succeeded in stripping value from an insolvent firm, to the disadvantage of creditors. In the eyes of the law, this is no different from having an insolvent firm pay a huge dividend to shareholders when it should instead have repaid its creditors first. To win their claim, creditors have to show that the firm was insolvent at the deal date, or that it was left with unreasonably small capital, or that it could not pay its debts as they came due.

Since fraudulent conveyance complaints arise in bankruptcy court, if there is no bankruptcy filing, there is no complaint even though the deal itself might have rendered the subject firm insolvent. Although courts have so far been reluctant to allow creditors to stop a deal from closing merely by alleging that it will lead to a future bankruptcy, in current turmoil times

[4] We are indebted to Timothy Luehrman for bringing fraudulent conveyances to our notice.
[5] See Fraudulent Conveyances Act 1571, 13 Eliz 1, c 5.

with higher likelihood of bankruptcy, parties to levered transactions take (costly) steps *ex ante* to lower the likelihood of a successful lawsuit *ex post* (Simkovic and Kaminetzky 2011). Such measures include:

(a) Refinancing the entire capital structure in the course of the deal, even though some pre-existing debt could have been left outstanding, to ensure that there are no pre-existing or "involuntary" creditors at closing, i.e, to ensure that all creditors' participation in the deal is voluntary; it makes it harder for creditors to object *ex post* that they did not approve the deal *ex ante*

(b) Obtaining a solvency opinion (not just a fairness opinion) at closing—to have an independent third party assess and attest to solvency at the time of the deal, which makes it harder for an interested party to claim insolvency *ex post*

(c) Special provisions that trigger asset sales or partial restructuring steps when pre-specified liquidity or capital levels are crossed—to proactively prevent a bankruptcy filing that might lead to fraudulent conveyance complaints

3.2.2 Minority Buyout Transactions

In evaluating a reverse stock split, the Court of Chancery of the State of Delaware in *Ginette Reis v. Hazelett Strip-Casting Corp.*,[6] applied an entire fairness analysis and held that a board's attempt to cash out minority ("third-party") shareholders via a reverse split was neither the subject of a fair process nor resulted in a fair price.

The Court denied a summary judgment motion where the defendants (majority shareholders) argued that their actions were protected by the business judgment rule and that the plaintiff (minority shareholders) was only entitled to a statutory claim for fair value under 8 Del. C. §155(2). The Court denied the motion and held that the controller and conflicted directors had the burden to prove that the reverse split was entirely fair.

Where a controlling stockholder employs "a reverse split to freeze out minority stockholders without any procedural protections, the transaction will be reviewed for entire fairness with the burden of proof on the defendant fiduciaries."[7] The burden will be shifted to the

[6] See C.A. No. 3552-VCL, 2011 WL 303207 (Del. Ch. 1 Jan. 21, 2011), http://www.delawarelitigation.com/uploads/file/int4C(2).pdf.

[7] See C.A. No. 3552-VCL, 2011 WL 303207, 21.

plaintiff to prove unfairness where the board appoints a special committee or if the split was contingent upon a majority-of-the-minority vote. If both mechanisms are used, the action can avoid an entire fairness review.

Where entire fairness applies, "the defendants must establish to the court's satisfaction that the transaction was the product of both fair dealing and fair price [...] A reverse split in which stockholders receive cash in lieu of fractional interests is an end-stage transaction for those stockholders being cashed out of the enterprise. A disinterested and independent board's decision to pay cash in lieu of fractional shares therefore should be subject to enhanced scrutiny" (C.A. No. 3552-VCL, 2011 WL 303207, 20). The Court found that because the board did not employ any procedural protections and because the minority had no one to bargain on its behalf, there was no fair dealing.

The *Ginette Reis v. Hazelett Strip-Casting Corp.* decision is noteworthy for its application to a reverse stock split of principles generally used in assigning the burden of proof in minority buyout transactions (Reder, Schwartz, and Siddiqui 2011, 4). As in *In re CNX Gas Corp. Shareholders Litigation*,[8] it was restated that a minority buyout may be entitled to the benefits of a more deferential business judgment analysis if both of the recognized procedural protections—formation of a special board committee and a majority-of-the-minority vote stockholder vote—are utilized. If this approach is affirmed, dealmakers will have to consider more sophisticated alternatives in structuring minority buyouts, whether effected via a merger or a reverse stock split.

3.3 Sequential Exchanges

The single-exchange framework in Coase (1960) contains the implicit assumption that past exchanges in property rights do not affect future transaction costs (Arruñada 2017). However, past and future acquirers—i.e., the *third parties* to present transactors—have implications in trading costs. Freedom of contract will cause greater information asymmetry for non-contemporaneous acquirers of that particular transacted asset, and also alike assets for they may be subject to analogous burdens.

First, when customized property rights are involved, the value of specific asset is reduced

[8] See CNX Gas, 4 A.3d 397 (Del. Ch. 2010).

if acquirers incur greater costs to understand the idiosyncrasies of the transacted asset (Merrill and Smith 2000; Smith 2011). For example, the buyer of preferred stock will have to exert additional effort to understand his rights and limitations as a stockholder in comparison to common stock. Moreover, if there are different stock classes involved, stockholder of common stock will have to learn the rights of different classes of preferred stock to value their own stock. Second, hidden rights decreases the market value of alike assets (which potential buyers may presume to be encumbered with hidden burdens) due to increased verification costs (Hansmann and Kraakman 2002). For example, the buyer of a house may doubt whether the asset is mortgaged, whether the seller is the rightful owner, or the property is accurately delimited. The cost of overcoming this information asymmetry will decrease the house's value. In both cases, the value of the assets and pool of potential future acquirers will be affected by past transactions.

To contain the risk of inter-temporal third parties (i.e., past or future transactors) challenging the legitimacy of the contract in exchanges of durable assets, current transactors undertake costly formalities of private ordering (e.g., title insurance, guarantees) or public ordering (e.g., registries). The more often the asset is transacted and the higher the value of the asset, the more significant this risk will be.

4 Scrutiny Increase with Third Parties

The principals (or public at large) do not know with certainty whether the agent is misusing their funds. Is more information about the transaction welfare enhancing? The common wisdom supports this statement. When third parties are involved, however, more information may backfire for the principals or public at large. An increase in critical observation and accountability from third-party participation reduces the informational asymmetry between the third parties' expected and actual benefits from an opportunistic challenge in two ways.

First, an increase in scrutiny fine-tunes third parties' beliefs about expected benefits from an opportunistic challenge (lower standard deviation), which yields a second-order stochastically dominant distribution of expected benefits, with the inflection point at the mean (Mas-Colell, Whinston, and Green 1995). Enhanced transparency *symmetrizes* the information of the agent and third parties. Consequently, the agent can better forecast third parties'

reaction to her project and choice of contractual terms.

Second, an increase in scrutiny *updates* the mean of third parties' beliefs about the benefits from an opportunistic challenge. If potential benefits from an opportunistic challenge were underestimated (downwardly biased) by third parties, more information would upwardly adjust the beliefs (first-order stochastic dominance given the same standard deviation); correspondingly, if potential benefits from an opportunistic challenge were overestimated (upwardly biased) by third parties, more information would downwardly adjust the beliefs.

Overall, an increase in scrutiny will lead to a decrease in the likelihood of opportunistic third-party challenges in costly litigation environments and with downwardly adjusted beliefs about possible benefits from a challenge. However, an increase in scrutiny where litigation costs are low, or beliefs about potential benefits from opportunistic challenges were underestimated and then upwardly adjusted will lead to an increase in the likelihood of opportunistic challenges. In anticipation, the agents will increase contractual rigidity, leading to a decrease in welfare. The welfare effect of an increase in scrutiny on contract features depends, therefore, on the adjustments in third parties' beliefs.

On the one hand, scrutiny increases the level of internalization of adaptation costs by the agent and leads, *ceteris paribus*, to a gain in efficiency due to lower optimal contract rigidity and contracting price. On the other hand, from scrutiny calibration and update effects better informed third parties may increase or decrease the likelihood of third-party opportunistic challenges. Hence, it is equivocal whether open information policies (as the case of the State of California[9] or the Sarbane-Oxley Act of 2002[10]) lead to efficient contracts.

Thus, holding administrative costs constant, an increase in scrutiny reduces rigidity only if the internalization of adaptation costs by the agent is larger than the cost increase in

[9] The California State Legislature's Brown Act of 1953 guarantees the public's right to attend and participate in meetings of local legislative bodies. The Bagley-Keene Open Meeting Act of 1967 implements a provision of the California Constitution explicitly mandates open meetings for California State agencies, boards, and commissions. The California Public Records Act of 1968 mandates disclosure of governmental records to the public upon request, unless there is a specific reason not to do so. According to Article 1 of the California Constitution due to California Proposition 59 (the Sunshine Amendment) "the people have the right of access to information concerning the conduct of the people's business." Cf. California State Legislature Acts at: http://www.legislature.ca.gov/.

[10] See http://www.gpo.gov/fdsys/pkg/BILLS-107hr3763enr/pdf/BILLS-107hr3763enr.pdf.

potential opportunistic challenges due to calibration and update of beliefs by third parties. On the policy side, increased transparency and scrutiny should be accompanied by an increase in litigation costs to avoid opportunistic challenges.

5 Conclusions and Further Developments

Our framework combines third-party oversight and transaction costs to explain the apparent inefficiencies in contract design. High *ex ante* payment volatility or *ex post* flexibility in implementation triggers drawbacks that lead to contract failures or costly adaptations by agents subject to scrutiny. Such contracts cannot be directly compared with two-sided impersonal private contracts. Instead, they should be compared with analogous contracts in similar institutional environments and should comply with Williamson's "remediableness criterion," which holds that "an extant mode of organization for which no superior *feasible* alternative can be described and *implemented* with expected net gains is *presumed* to be efficient" (Williamson 1999, 316; the emphasis is in the original). In other words, efficiency analysis should factor in economic and third-party transaction costs.

The consideration of third parties raises a number of testable predictions and interesting speculations. A formal model of how actual contract terms affect the contract challenge process might yield new insights. Alternatively, a signaling model might be built around either public agent probity or project characteristics that only the agent can observe.

Similarly, the differences in third-party challenger motives discussed (opportunism versus public interest) might also be exploited. Among other things, the latter could allow the consideration of different welfare implications of rigidity: Whereas added rigidity is unequivocally bad if it prevents meritorious challenges (e.g., from publicly interested parties countering corruption), rigidity that deters rent-seeking challenges (from opportunistic competitors trying to "steal" the contract) may actually be beneficial.

Conflict of Interest Statement

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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