

# **Dual Anchors in the Shadow of the Future: How Renewal Expectations and Relational History Govern Behavior in Public Contracts**

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## **Abstract**

This study extends relational contract theory by showing how behavioral reference points can be established through policy, not merely by formal terms or competition. We theorize that contracts are governed by dual anchors: backward-looking relational history and forward-looking renewal expectations. Analyzing 430 public legal service contracts, we find relational history increases prices in amendments, revealing its “dark side.” A non-binding renewal clause, however, significantly attenuates this effect. This soft institutional signal recalibrates perceived entitlements and constrains price increases by setting an interpretive reference point. Our findings provide behavioral micro-foundations for how institutions actively structure relational dynamics and demonstrate how procurement design can shape expectations to improve renegotiation outcomes.

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# Dual Anchors in the Shadow of the Future: How Renewal Expectations and Relational History Govern Behavior in Public Contracts

## INTRODUCTION AND OVERVIEW

Public contracts are inherently incomplete (Hart and Moore 2008). Consequently, scholars increasingly rely on two perspectives to explain how contracts function under uncertainty. The first, relational contract theory, highlights how norms, trust, and repeated interactions sustain cooperation when formal enforcement is limited (Macneil 1977). Relational contract theory employs a key mechanism known as the “shadow of the future,” a concept from Axelrod (1984) describing the expectation of continued interaction, which disciplines opportunism and supports relational governance. This concept has become foundational for understanding cooperation across fields, including game theory (Dixit 2004), business strategy (Poppo et al. 2008), and public contracting (Brown, Potoski, and Van Slyke 2013; Malatesta and Smith 2014).

The second, contracts-as-reference-points (CRP), explains how contracts establish psychological benchmarks for entitlements (Hart and Moore 2008). When outcomes fall short of these benchmarks, parties may engage in “shading” by withholding effort or cooperation, even in the absence of a formal breach (Hart and Moore 2008; Bartling and Schmidt 2015). Taken together, these approaches underscore that effective contracting depends not only on enforceable terms but also on informal expectations shaped by relational dynamics and the broader institutional environment. While these perspectives have advanced our understanding of the power of relational governance, a critical frontier remains: understanding how *different informal mechanisms interact* to shape behavior.

Despite the continued interest in relational governance, empirical progress has been constrained by a fundamental measurement challenge. The shadow of the future, the value parties place on continued interaction, is a core theoretical mechanism; yet it is notoriously difficult to

observe. Consequently, research has often relied on surveys to measure perceived trust and cooperation ex post (e.g., Poppo and Zenger 2002; Cao and Lumineau 2015) or used the accumulation of past deals as a proxy for relational capital (e.g., Gulati 1995). While insightful, these approaches cannot directly capture the ex ante institutional cues, the very signals theorized to shape expectations and drive relational behavior. As Macchiavello (2022) notes, “the value of future relationships is typically not observed in the data” (p. 337).

We overcome this limitation using a novel dataset encompassing 430 legal service contracts executed by the State of Indiana, with complete text available for each agreement. Additionally, our data contain a direct proxy for forward-looking expectations that cast a shadow of the future: a policy-based renewal clause. This clause is a formal feature of the procurement system, and the decision to include it occurs before contract execution, distinguishing it from a mid-performance extension. However, we theorize the renewal clause as an informal governance mechanism. Two features establish its informal nature. First, unlike a penalty clause, the renewal clause is non-binding. Second, the agency faces no legal compulsion to renew, as a standard Termination for Convenience (TfC) clause supersedes it. Indiana policy requires this renewal clause *only if* the agency intends to extend the contract (IC § 5-22-17-4), making it a signal of intent, not a binding commitment. This classification aligns with public management scholarship that identifies mechanisms functioning “outside the formal agreement” (Romzek et al. 2013, p. 814) to enable collaborative self-governance (Ostrom, Gardner, and Walker 1994). Like the repeated interactions that underpin informal networks (Amirkhanyan 2009, 2010), the power of the renewal clause stems not from legal enforceability but from its capacity to shape expectations and norms, which are core to relational governance.

We test the power of this mechanism in the public procurement of legal services, an ideal setting to observe how such informal expectations govern behavior. Public procurement represents

significant economic activity, accounting for approximately 13% to 20% of global GDP (World Bank 2020), with legal services constituting a sizable and strategically important category within this expenditure (U.S. Government Accountability Office 2024). In this market, specialized knowledge, hard-to-verify quality, and scarce government resources create governance challenges that make relational and behavioral factors paramount (Casady, Petersen, and Brogaard 2023; Hood 2006). These characteristics epitomize the broader public management challenge where measurement issues make quality elusive and monitoring more difficult (Hood 2006), precisely the conditions under which the shadow of the future becomes most critical for sustaining cooperation.

This study makes three key contributions. First, we advance an integrated behavioral framework by showing how governance is jointly shaped by relational history and policy-based institutional signals. Second, we move beyond the common formal-versus-informal governance dichotomy to investigate the interaction of *two informal mechanisms*: a renewal policy that operates as a soft institutional signal that projects a shadow of the future and prior relational history (for a review see (for a review, see Baker, Gibbons and Murphy 2022; Bernstein 2015)). Third, we reframe the focus from *whether* relationships matter to *how* institutions can actively structure relational dynamics. Our findings demonstrate that while relational history increases pricing in contract amendments, the expectation of renewal attenuates this effect, revealing how policy-based signals can act as behavioral constraints.

The paper is structured as follows. The next section reviews the literature on incomplete contracting, relational governance, and behavioral reference points to develop our hypotheses. We then introduce our empirical setting and novel dataset of public legal service contracts, detailing our identification strategy and measures. After presenting the results, the discussion section elaborates on how our findings recast contract management as the active governance of the interpretive environment, with concluding implications for theory and practice.

## **REVIEW, THEORY, KEY IDEAS**

### **The Incomplete Contracting Paradigm**

All contracts are inherently incomplete (Hart and Moore 2008). Bounded rationality and environmental uncertainty prevent parties from specifying all future contingencies (Simon 1961; Williamson 1985). This incompleteness makes contract relationships particularly vulnerable under certain conditions, such as when performance is difficult to verify or administrative resources are scarce, rendering critical aspects of an agreement non-contractible (Baker, Gibbons, and Murphy 2002). The real-world implications of this theoretical limitation are well-documented. For instance, Casady, Petersen, and Brogaard (2023) link highly asset-specific investments to higher contract cancellation rates, when governments lack administrative capacity. Further underscoring the primacy of practice over form, a global study by Bosio et al. (2022) finds that the design of procurement laws is uncorrelated with outcomes, but procurement practice is. These findings underscore that how actors manage contracts relationally often matters more than the formal, legal specifications. Further behavioral research reveals that even non-binding policy guidelines can anchor perceptions of entitlement, functioning much like formal reference points (Fehr et al. 2011; Erlei and Reinhold 2016).

### **Relational Governance and the Dual Nature of the “Shadow of the Future”**

To manage contract incompleteness, parties rely on relational governance; these are the informal norms, trust, and expectations that sustain cooperation (Macneil 1980). A cornerstone of this perspective is the expectation of future interaction, which Axelrod (1984) demonstrated can discipline opportunism and foster cooperation in repeated games. This theoretical mechanism finds strong support in empirical studies of long-term relationships. Firms engaged in repeated exchanges develop trust-based mechanisms that lower monitoring costs and facilitate adaptation (Uzzi 1996).

In complex environments, relational foundations are also linked to fewer disputes and better performance (Gulati and Singh 1998; Gil and Marion 2013; Lamothe and Lamothe 2011). Conversely, in public-private partnerships, the mere suspicion of early termination can shatter trust and destabilize the collaboration (Heinrich et al. 2026, in press).

However, a more nuanced literature reveals that long-term relationships can advantage suppliers, lead to relational lock-in, diminish accountability, and entrench inefficient arrangements (Levinthal and Fichman 1988; Kumar 1999). In public contracting, where oversight may be weak, entrenched relationships can allow underperforming suppliers to secure favorable renegotiation terms (Chuang et al. 2020). This risk is pronounced in legal services, where suppliers hold significant information advantages. This dynamic aligns with broader theories of how institutions can be captured to serve dominant coalitions (Stigler 1971; North 1990). Gagnepain and Ivaldi (2017), for example, show how flexible, cost-plus contracts in public transport can facilitate political capture. Thus, relational history presents a dual possibility: it can be a reservoir of goodwill that enables cooperation or a source of leverage that enables opportunism.

### **A Behavioral Lens: Contracts as Reference Points and Fairness Norms**

The Hart and Moore (2008) contracts-as-reference-points (CRP) framework offers a behavioral micro-foundation for these dynamics, introducing “shading” as a specific mechanism. It is important to distinguish shading from the purely strategic opportunism central to transaction cost economics. Although both involve self-interested behavior, opportunism involves strategic misrepresentation or deceitfulness (Williamson 1985). Shading is a specific type of *reactive* behavior that occurs when parties perceive a violation of the “spirit of the agreement” (Hart and Moore 2008). In the CRP framework, the original contract serves as a psychological reference point, creating perceived

entitlements for both parties. Parties “shade” when they judge some aspect of the agreement as unfair, often the result of changed circumstances.

Kahneman, Knetsch, and Thaler’s (1986) theory of dual entitlement clarifies the fairness principles governing perceived entitlements. This theory posits two cognitive rules that underpin fairness judgments in market transactions:

1. A rule of prohibition: Firms cannot impose losses on customers or suppliers merely to increase their own gains.
2. A rule of permission: Firms can protect their reference profit by transferring losses, such as by raising prices in response to increased costs.

The dual entitlement theory supplies the psychological mechanism for the “aggrievement” in the CRP model. In the CRP model, the original contract is the reference point for contracting parties, and the implicit goodwill sustaining the agreement rests on an expectation that each party will act within this shared notion of fair dealing. Under the rules of dual entitlement, a supplier may raise prices to offset costs; this is considered fair (rule of permission). However, if the supplier raises prices to merely increase gains, this would be considered unfair (rule of prohibition).

Integrating Hart and Moore’s (2008) contracts-as-reference-points framework with Kahneman, Knetsch, and Thaler’s (1986) theory of dual entitlement, allows us to conceptualize a supplier’s request for a rate increase not as pure opportunism, but as a specific behavioral expression of shading, justified internally under the ‘rule of permission’ to recalibrate the terms to match the supplier’s sense of entitlement to its reference profit. In this view, shading constitutes a withholding of cooperation. When a supplier feels aggrieved, for instance by believing the contract price has become unfairly low due to changing market conditions, it may strategically withdraw its cooperation on price. The act of demanding a higher rate, particularly when the government is locked in, is a response that directly enacts this aggrievement. This request serves to recalibrate the

terms to match the supplier's sense of entitlement to its reference profit, a move it justifies internally under the "rule of permission" from dual entitlement theory.

### **Synthesizing the Gap: The Interplay of Informal Mechanisms**

While extant literature richly details how formal and informal governance co-evolve and interact (Poppo and Zenger 2002; Cao and Lumineau 2015), a critical gap remains. Scholars have largely overlooked how *different informal mechanisms themselves interact*. As meta-analyses show, most research treats "relational governance" as a monolithic construct, conflating backward-looking factors, such as relational history, with forward-looking signals, such as renewal expectations (Cao and Lumineau 2015).

We posit that a co-evolutionary logic also governs these distinct strands of informal governance. Parties do not process relational history and renewal expectations in isolation; they integrate these backward- and forward-looking signals to form a unified perception of the relationship's value and the associated norms of conduct. A renewal expectation can legitimize and reinforce the cooperative norms built by history, or conversely, a relationship history can provide the contextual foundation that makes a future-oriented signal credible. Therefore, the *interplay* of these two anchors, not just their independent presence, should jointly structure perceived entitlements and govern behavior. Appendix 1 systematically compares the core claims of the present study to key studies on relational governance, highlighting that none directly test this interaction.

This frames our core research question: how do a policy-based renewal expectation and relational history affect the likelihood of rate increases, both independently and through their interaction? We develop a set of hypotheses to test these dynamics.

## Hypothesis Development

Building on the theoretical foundations, we develop competing hypotheses to test how renewal expectations and relational history govern pricing behavior. Our core tension pits a cooperation-facilitating logic, rooted in the shadow of the future, against an entitlement logic, rooted in the hardening of perceived entitlements that justifies shading.

### The Direct Effect of Renewal Expectations

The cooperation-facilitating logic suggests that a renewal expectation casts a shadow of the future (Axelrod 1984), raising the value of the ongoing relationship. Suppliers forgo short-term gains, such as a rate increase, because the long-term cost of harming the relationship outweighs the immediate benefit. By casting a clear shadow of the future, the renewal clause serves as a low-cost governance tool, directing interests toward stability and cooperative adaptation (Gibbons and Henderson 2012).

***H1a: The presence of a renewal expectation reduces the likelihood of a rate increase in subsequent amendments.***

The renewal expectation can trigger another distinct psychological pathway. Under the entitlement logic, the same signal of continuity can diminish competitive pressure and harden the supplier's perceived entitlement to future profits making it more sensitive to perceived undervaluation in the present (Bartling and Schmidt 2015; Erlei and Reinhold 2016). This security can motivate the supplier to invoke the "rule of permission," seeking rate increases to protect or enhance a now-higher reference profit. The increase is framed not as opportunism, but as a fair recalibration. Thus, the identical signal can also motivate shading depending on which psychological pathway dominates.

***H1b: The presence of a renewal expectation increases the likelihood of a rate increase in subsequent amendments.***

### The Direct Effect of Relational History

The cooperation-facilitating logic posits that an accumulation of past contracts, which constitutes a parties' relational history, becomes a valuable asset. The supplier, seeking to preserve the future income stream this asset represents, will strategically avoid actions, such as requesting a rate increase that could be perceived by the government as a violation of the rule of prohibition and thus jeopardize the accumulated trust and goodwill.

***H2a: A greater volume of relational history (more previous contracts between the same parties) is associated with a lower probability of a rate increase in subsequent amendments.***

The entitlement logic suggests that a relational history can entrench the supplier, increase switching costs for the government, and establish a high, rigid reference profit. The supplier, feeling entitled to protect its profit level, leverages its relational lock-in to invoke the rule of permission, leading to more frequent rate demands. In effect, relational lock-in can increase costs and create inefficiencies (e.g. Chuang et al. 2020).

***H2b: A greater volume of relational history (more previous contracts between the same parties) is associated with a higher probability of a rate increase in subsequent amendments.***

### **The Interaction of Renewal Expectations and Relational History**

This study's central contribution is testing the interaction between a forward-looking renewal expectation and backward-looking relational history. The critical question is whether these two informal mechanisms act as substitutes that constrain shading or as complements that amplify a supplier's perceived entitlement and thus shading.

The expectation of renewal may discipline the relational dynamic. A clear expectation of future interaction raises the cost of shading (requesting a rate increase) because the supplier values the guaranteed long-term income stream over a one-time gain. Under this logic, the renewal clause acts as a governance tool that counteracts the potential for shading created by a long history.

**H3a (Interaction Effect): *A renewal expectation attenuates the positive relationship between relational history and rate increases.***

Conversely, the expectation of renewal and a relational history may jointly amplify the supplier's perceived entitlement. Under this logic, the guarantee of continued interaction provides the security for the supplier to confidently leverage its relational entrenchment, actively invoking the rule of permission to protect or enhance its established reference profit, thus increasing the likelihood of shading (rate increases).

**H3b (Interaction Effect): *A renewal expectation strengthens the positive relationship between relational history and rate increases.***

## **METHODS AND DATA**

### **Sample Selection**

We built our empirical analysis on a dataset of publicly available contracts from the Indiana Department of Administration (IDOA). As the official procurement agent for the state, the IDOA issues strict guidelines and sample language for contract drafting (IC §5-22-4-1). Although individual state agencies possess a degree of discretion to tailor contracts to their specific needs, they must incorporate mandatory boilerplate language for many contract clauses. This process creates a valuable dataset for research. The required clauses introduce a high degree of standardization across all contracts, providing a consistent baseline. At the same time, the discretionary choices made by agencies introduce a degree of heterogeneity, allowing us to analyze meaningful variations in contract structure and the parties' governance choices. Our study focuses on the legal services sector. This industry-specific approach is warranted because relational contracts are embedded in context-specific knowledge, making detailed, sector-focused studies the recognized method for measuring them effectively (Macchiavello, 2022; Heide and Miner, 1992, p. 273).

The IDOA website contains over 14,000 contracts and grants. We identified an initial sample of 430 legal service contracts based on three criteria: (1) the contract involved a state agency and a law firm or attorney; (2) the contract described legal services; and (3) the contract began between 2005 and 2021. The resulting sample represents the full set of legal contracts for the period.<sup>1</sup> The level of analysis is the transaction (Williamson 1996, p.5). The dataset is distinctive in encompassing the entire corpus of legal service contracts executed by the State of Indiana, with the full text available for each agreement. This level of completeness enhances the reliability of the analysis and enables a detailed examination of contract variation.

## Measures<sup>2</sup>

*Rate increase.* The dependent variable is measured two ways. The first is a binary measure determined from contract text, specifically a comparison between the rates in the original contract and the rates in the subsequent contracts between the same parties. The contract documents specify multiple rates for different personnel (e.g., managing partners in the law firm, junior associates, paralegals), as well as a “not to exceed” amount for total charges. If a subsequent contract (amendment or renewal) increased any pay rates specified in the original contract, the measure is one (1), zero (0) otherwise. This measure taps into the likelihood of rate increases rather than their magnitude. For our alternative dependent variable, we calculate the percent increase in the highest hourly rate based on the listed values.

*Expectation of renewal.* The shadow of the future in this study is operationalized through the state’s renewal policy. Indiana state policy allows agencies to signal an intention to renew a contract at the time of its initial execution (IC § 5-22-17-4). The Indiana Department of Administration

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<sup>1</sup> Fifteen contracts were dropped from dataset because they had unverifiable information.

<sup>2</sup> The step-by-step guide used by the researchers to derive and code the measures is available from the authors.

(IDOA) clarifies the renewal policy and the forms to be used in its 2018 Professional Services Contract Manual provided to all state agencies. If the parties agree that the contract may be extended after the initial term The state requires documentation in two places (p. 19 *et seq.*).

1. **Executive Document Summary (EDS):** This standardized form is attached to every state contract. Its purpose is to provide a consistent, at-a-glance summary of key information for contract administrators, including parties' names, effective date, and total amount, among other details. Importantly for this study, the EDS form includes a checked box indicating whether renewal is anticipated. This makes the EDS a reliable, officially mandated source for capturing the *ex ante* renewal expectation, as it is completed at the contract's inception as part of the formal execution.<sup>3</sup>
2. **Contract Clause:** The text of the agreement itself must include a clause stating the intent to renew under the same terms and conditions.

We measure this construct as a binary variable, coded 1 if the original contract's EDS form indicates an expectation of renewal, and 0 otherwise. This coding is verified against the presence of the corresponding renewal clause in the contract text. While our measure is based on a unique policy, using a contract language to infer parties' intentions is common approach in the literature, from foundational theories (Hart and Moore 2008) to public sector applications (Malatesta and Smith 2014).

*Amendments.* An amendment is any contract that materially alters the original agreement between the same agency and supplier pair, for example, by altering price, changing the work scope or extending the contract duration (IC § 5-22-17-4). To accurately identify an amendment, we

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<sup>3</sup> A sample of the Executive Document Summary (EDS) form is available online from the Indiana Department of Administration (<https://www.in.gov/idoa/procurement/contract-administration/executive-document-summary-eds/>).

employed a three-step verification process. First, we checked the EDS form for an initial label or contract type code that indicated “amendment.” Second, to confirm this classification, we examined the contract document itself for explicit language, such as “this amendment” to verify it was formally modifying a prior agreement. Finally, as a comprehensive check, we grouped all contracts by agency and supplier pairs to review the full contractual history and context, ensuring each document’s true type was correctly identified. This definition of an “amendment” aligns with the transaction-cost economics approach to studying contract modification, where amendments are a key indicator of adaptation and renegotiation (Masten and Saussier 2000; Bajari and Tadelis 2001). The variable is coded one (1) if the contract is an actual amendment, zero (0) otherwise.

*Relationship history.* This continuous measure reflects the total number of prior contracts. Both the sociology (e.g., Gulati 1995) and economics (e.g., Banerjee and Duflo 2000) literatures use prior deals to measure the presence of relational mechanisms. The measure is also consistent with Carson et al. (2006); a single item in their index asked the total number of projects on which the client had employed the supplier in the past, not including the present project. We code for prior contracts with the same agency and supplier, and alternatively, prior contracts between any state agency and the supplier. Although the contracts cover different types of legal services (e.g., general advice, court cases, collections), we follow other research by treating all types of legal services the same (for example, Ryall and Sampson 2009; Parkhe 1993). The goal is to capture the presence of relational mechanisms, which can develop across various types of interactions. Indeed, contracting parties build contracting experience through repeated deals, regardless of the specific service.

*Renewal expectation X Relationship history.* We include an interaction term in various models to test the complementarity of governance mechanisms.

*Days to next election.* This political time pressure variable is added as a control. Log transformations are used in sensitivity and robustness checks.

*Amount.* The contract dollar amount reflects the total contract cost and controls for scale effects. Log transformations are used in sensitivity and robustness checks.

*Duration.* The IDOA retains a four (4) year limit on the contract term, including renewals (IDOA Professional Services Manual 2018). Contract length is calculated in days consistent with prior research (Masten and Saussier 2000). Contract duration tends to be fine-tuned for short-term agreements. However, duration of long-term contracts tends to cluster at discrete intervals of three to ten years (p. 277). Alternative measures including log transformations are used in sensitivity and robustness checks.

*Competition.* The variable is a control for external discipline on pricing. Indiana uses one of four methods of vendor selection: competitive bidding, negotiated bidding, request for proposals (RFP), or special procurement (SP). If the procurement method is marked as “bid” or “RFP”, the vendor selection was competitive and coded as one (1) and zero if non-competitive (negotiated or special procurement). This dichotomous measure, distinguishing competitive from non-competitive sourcing, is a standard approach for controlling the level of market discipline in procurement studies (Bajari and Tadelis 2001; Brown, Potoski, and Van Slyke 2016; Malatesta and Smith 2011).

*Fixed effects variables include year and agency.* The year reflects the contract’s start date, taken from the contract text and verified with agency reports. The agency variable identifies the specific agency that signed the contract.

## Summary Statistics

**Table 2.** Summary Statistics

| Variable            | Mean   | Std. Dev. | Min | Max    |
|---------------------|--------|-----------|-----|--------|
| Rate Increase (0/1) | 0.3012 | 0.4593    | 0   | 1      |
| Log % Increase      | 2.535  | 1.9856    | 0   | 5.3033 |
| Amendment           | 0.5614 | 0.4968    | 0   | 1      |
| Renewal             |        |           |     |        |
| Expectation         | 0.4352 | 0.4964    | 0   | 1      |

|                                            |          |          |    |         |
|--------------------------------------------|----------|----------|----|---------|
| Relationship History                       | 6.988    | 10.3285  | 0  | 33      |
| Renewal Expectation X Relationship History | 3.0098   | 7.1363   | 0  | 33      |
| Competition                                | 0.0434   | 0.2039   | 0  | 1       |
| Days to Next Election                      | 709.4795 | 430.3585 | 24 | 1450    |
| Duration                                   | 708.7084 | 468.2265 | 0  | 3500    |
| Amount                                     | 161624.6 | 415735.7 | 0  | 5250000 |

Table 2 reveals several notable patterns. Renegotiation is commonplace, with amendments affecting 56% of contracts. Relationship history is extensive: 71% of suppliers have prior dealings with the same agency, and 79% with any state agency. The wide range of prior contracts (0–33, mean = 7) indicates substantial variation in relational capital. Furthermore, 44% of contracts include a renewal expectation, while less than 5% are subject to competition, indicating a largely non-competitive market. Finally, the high standard deviation of contract amount (more than twice the mean of \$161,625) reflects a diverse portfolio ranging from small agreements to contracts exceeding \$5.25 million dollars. The correlation matrix presented in table 3 also reveals several meaningful patterns before controlling for other factors.

**Table 3.** Correlations Table

|                        | 1      | 2      | 3      | 4     | 5 | 6 | 7 | 8 | 9 |
|------------------------|--------|--------|--------|-------|---|---|---|---|---|
| 1 Rate Increase (0/1)  | 1.000  |        |        |       |   |   |   |   |   |
| 2 Log_% Increase       | 0.568* | 1.000  |        |       |   |   |   |   |   |
| 3 Renewal Expectation  | 0.043  | -0.004 | 1.000  |       |   |   |   |   |   |
| 4 Relationship History | 0.294* | 0.388* | -0.015 | 1.000 |   |   |   |   |   |

|   |                                                  |         |         |        |        |         |         |        |             |
|---|--------------------------------------------------|---------|---------|--------|--------|---------|---------|--------|-------------|
| 5 | Renewal<br>Expectation X<br>Relationship History | 0.183*  | 0.254*  | 0.481* | 0.522* | 1.000   |         |        |             |
| 6 | Competition                                      | -0.139* | -0.267* | 0.196* | -0.095 | -0.024  | 1.000   |        |             |
| 7 | Days to Next<br>Election                         | 0.045   | 0.252*  | -0.090 | 0.045  | -0.035  | 0.1685* | 1.000  |             |
| 8 | Duration                                         | 0.199*  | 0.018   | -0.062 | 0.040  | -0.098* | 0.1390* | 0.041  | 1.000       |
| 9 | Amount                                           | 0.077   | -0.038  | -0.046 | 0.020  | -0.027  | -0.063  | 0.181* | 0.067 1.000 |

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\*\*\*p.<.01, \*\*p,.05, \*p<.1

The correlation matrix reveals several key bivariate relationships. As expected, the binary and log measures of rate increase are positively correlated ( $r = 0.568$ ,  $p < 0.10$ ). Relationship history correlates positively with both the likelihood ( $r = 0.294$ ) and magnitude ( $r = 0.388$ ) of rate increases ( $p < 0.10$ ), suggesting accumulated ties empower suppliers to seek higher prices. The interaction term (Renewal X History) also correlates with rate increases and, as expected, is strongly correlated with its constituent variables (Renewal  $r = 0.481$ ; History  $r = 0.522$ ,  $p < 0.10$ ), confirming it captures a distinct, combined governance mechanism prior to controls.

Notably, competition is negatively correlated with rate increases ( $r = -0.139$  to  $-0.267$ ,  $p < 0.10$ ), implying market discipline constrains pricing. Its positive correlation with renewal ( $r = 0.196$ ,  $p < 0.10$ ) is interpreted with caution due to the rarity of competitive sourcing (<5% of contracts). Finally, political and temporal factors show meaningful correlations. Larger rate increases occur when elections are farther away ( $r = 0.252$ ,  $p < 0.10$ ), consistent with political accountability tempering costs. Longer contract duration is linked to a higher likelihood of a rate increase ( $r = 0.199$ ,  $p < 0.10$ ), offering more renegotiation opportunities.

## Empirical Strategy

To account for potential selection bias, where the factors influencing whether a contract is amended may also affect rate adjustments, we employ a probit model with sample selection (Van de Ven and

Van Praag 1981). The resulting Heckman selection model is appropriate when the outcome of interest (a rate increase) is only observed for a non-randomly selected sub-sample (amended contracts), and there is a theoretical reason to believe the selection and outcome processes are correlated ( $\rho \neq 0$ ). The model's identification relies on meeting two key conditions: 1) having at least one variable that influences the selection equation but can be excluded from the outcome equation (the exclusion restriction), and 2) the model being correctly specified with joint normality of the error terms. Our specification meets these conditions. We use contract duration as our exclusion restriction, which powerfully predicts the probability of a contract being amended (the selection stage) because a longer contractual relationship inherently provides more opportunities for renegotiation. However, once a contract is up for amendment, there is no clear causal channel through which the original *duration* would directly cause a *rate increase*, conditional on our controls for the relationship's state (e.g., relational history, renewal expectations) and the economic context (e.g., election timing, competition).

The model consists of two equations: The selection equation models the probability that a contract has an amendment (selection into the observed outcome); the outcome equation models the probability of a rate increase, conditional on the contract being amended. The model is specified as follows:

#### **Selection Equation (Amendment Decision)**

$$Y_2^* = \gamma_0 + \gamma_1 \text{Duration} + \gamma_2 \text{Amount} + \gamma_3 \text{Year FE} + \gamma_4 \text{Agency FE} + u_2$$

$$Y_2 = 1 \text{ if } Y_2^* > 0 \text{ (contract amended), } Y_2 = 0 \text{ otherwise}$$

#### **Outcome Equation (Rate Increase Decision)**

$$Y_1^* = \beta_0 + \beta_1 \text{Renewal Expectation} + \beta_2 \text{Relationship History} + \beta_3 (\text{Renewal Expectation} \times \text{Relationship History}) + \beta_4 \text{History-squared} + \beta_5 \text{Competition} + \beta_6 \text{Days to Next Election} + \beta_7 \text{Year FE} + \beta_8 \text{Agency FE} + u_1$$

$$Y_1 = 1 \text{ if } Y_1^* > 0 \text{ and } Y_2 = 1 \text{ (rate increase observed);}$$

$$Y_1 = 0 \text{ if } Y_1^* \leq 0 \text{ and } Y_2 = 1 \text{ (no increase observed);}$$

$$Y_1 \text{ not observed if } Y_2 = 0 \text{ (contract not amended)}$$

## Error Terms

$$(u_1, u_2)' \sim N(0, 0; 1, \varrho; \varrho, 1)$$

Where  $Y_1$  is the binary outcome (rate increase);  $Y_2$  is the selection indicator (amendment);  $\Phi$  is a standard normal CDF;  $\Phi_2$  is a bivariate normal CDF with correlation  $\varrho$ .

## Model Specifications

We estimate a series of models to ensure the robustness of our findings. The analysis begins with a base probit specification featuring a linear term for relationship history (Model 1), which is then extended to test for a curvilinear effect of relationship history by adding a quadratic term (Model 2). We subsequently introduce controls for political cycles and competition (Model 3) before presenting our preferred full specification with all covariates (Model 4). To further verify our results, we conduct robustness checks using an OLS model on the percentage rate increase (Model 5) and a Heckman selection model to account for potential selection bias in the magnitude of the increase (Model 6).

## Main Results and Robustness Checks

| <b>Table 4. Alternative Models of Rate Increases in Public Sector Legal Service Contracts</b> |                               |                                  |                                  |                              |                    |                     |
|-----------------------------------------------------------------------------------------------|-------------------------------|----------------------------------|----------------------------------|------------------------------|--------------------|---------------------|
| Variable                                                                                      | Model 1:<br>Probit<br>(Basic) | Model 2: Probit<br>(Curvilinear) | Model 3:<br>Probit<br>(Politics) | Model 4:<br>Probit<br>(Full) | Model 5:<br>OLS    | Model 6:<br>Heckman |
| Outcome<br>Equation                                                                           |                               |                                  |                                  |                              |                    |                     |
| Renewal<br>Expectation                                                                        | -0.098<br>(0.300)             | 0.186<br>(0.354)                 | 0.042<br>(0.284)                 | 0.324<br>(0.347)             | -0.056<br>(0.520)  | -0.123<br>(0.345)   |
| Relationship<br>History                                                                       | 0.065***<br>(0.021)           | 0.344***<br>(0.105)              | 0.062***<br>(0.021)              | 0.327***<br>(0.106)          | 0.314**<br>(0.136) | 0.276***<br>(0.098) |

**Table 4. Alternative Models of Rate Increases in Public Sector Legal Service Contracts**

| Variable                                  | Model 1:<br>Probit<br>(Basic)     | Model 2: Probit<br>(Curvilinear)  | Model 3:<br>Probit<br>(Politics)  | Model 4:<br>Probit<br>(Full)      | Model 5:<br>OLS    | Model 6:<br>Heckman               |
|-------------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------|-----------------------------------|
| Relationship<br>History ×<br>Renewal      | -0.035<br>(0.026)                 | -0.068**<br>(0.031)               | -0.046*<br>(0.026)                | -0.079**<br>(0.032)               | -0.050<br>(0.034)  | -0.041<br>(0.027)                 |
| History-squared                           |                                   | -0.007***<br>(0.003)              |                                   | -0.007***<br>(0.003)              | -0.006*<br>(0.004) | -0.005**<br>(0.003)               |
| Competition                               |                                   |                                   | -6.341<br>(3672324)               | -7.049<br>(372505)                | -0.831<br>(0.524)  | -0.947*<br>(0.561)                |
| Days to Next<br>Election                  |                                   |                                   | -0.001**<br>(0.000)               | -0.001**<br>(0.000)               | 0.0002<br>(0.0003) | 0.0002<br>(0.0004)                |
| Constant                                  | -0.387<br>(0.697)                 | -0.589<br>(0.726)                 | 0.489<br>(0.759)                  | 0.407<br>(0.807)                  | 1.777**<br>(0.870) | 1.943**<br>(0.897)                |
| Selection<br>Equation                     |                                   |                                   |                                   |                                   |                    |                                   |
| Duration                                  | 0.001***<br>(0.000)               | 0.001***<br>(0.000)               | 0.001***<br>(0.000)               | 0.001***<br>(0.000)               |                    | 0.001***<br>(0.0002)              |
| Constant                                  | -0.721***<br>(0.135)              | -0.724***<br>(0.135)              | -0.726***<br>(0.133)              | -0.728***<br>(0.134)              |                    | -0.784***<br>(0.138)              |
| Statistics                                |                                   |                                   |                                   |                                   |                    |                                   |
| N (Total)                                 | 413                               | 413                               | 413                               | 413                               | 210                | 390                               |
| N (Selected)                              | 231                               | 231                               | 231                               | 231                               | 210                | 208                               |
| N (Nonselected)                           | 182                               | 182                               | 182                               | 182                               | 0                  | 182                               |
| LR Test of Indep.<br>Eqns. ( $\rho = 0$ ) | $\chi^2(1) = 6.17$<br>$p = 0.013$ | $\chi^2(1) = 1.99$<br>$p = 0.158$ | $\chi^2(1) = 9.36$<br>$p = 0.002$ | $\chi^2(1) = 3.63$<br>$p = 0.057$ |                    | $\chi^2(1) = 2.05$<br>$p = 0.152$ |

*Note:* \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . Standard errors in parentheses (robust for OLS). All models include agency and years fixed effects.

Our analysis reveals a clear and nuanced story: while relational history appears to empower suppliers to seek higher rates (and government to agree), a simple renewal expectation powerfully constrains this effect, especially in the most entrenched relationships. We first establish the baseline

influence of relational history. As hypothesized in H2b, Table 4 (Model 4) shows a significant positive relationship between the accumulation of past contracts and the likelihood of a rate increase (coeff. = 0.327,  $p < 0.01$ ). This confirms the ‘dark side’ of relational history, where suppliers gain bargaining power. Note, the coefficient for renewal expectation is positive but not statistically significant (0.324, n.s.), providing no clear support for either H1a (which predicted a negative effect via cooperation) or H1b (which predicted a positive effect via entitlement). This suggests that the renewal clause’s power lies not in its direct effect, but in how it moderates other relational dynamics. The coefficient for the Relationship History  $\times$  Renewal interaction term is negative and statistically significant (-0.079,  $p < 0.05$ ). This provides strong support for H3a. A renewal expectation significantly *attenuates* the positive relationship between relational history and rate increases. This is the core finding: the expectation of renewal actively constrains the entitlement-driven shading behavior that otherwise emerges from a long-term relationship.

The significant negative coefficient for History-squared suggests the entitlement effect of relational history has diminishing returns. The fact that the key interaction term (Relationship History  $\times$  Renewal) remains negative and significant across multiple model specifications (notably in Models 2, 3, and 4) underscores the robustness of this central finding. The model also controls for important contextual factors. The significant negative coefficient for Days to Next Election (-0.001,  $p < 0.05$ ) indicates that rate increases are less likely as elections approach. This suggests that the heightened scrutiny of election cycles imposes an additional, external discipline on pricing behavior.

### **Marginal Effects and Substantive Significance**

The substantive significance of this moderating effect is notable, moving beyond statistical significance to practical importance. As illustrated in Table 5, the constraining power of the renewal clause grows considerably as the relationship deepens. For a supplier with a history of 5 contracts,

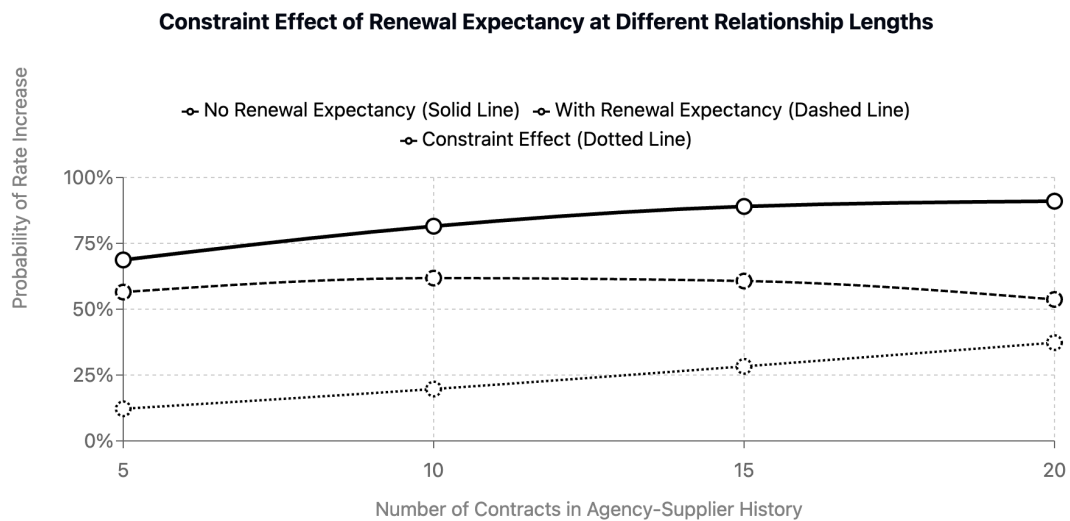
the renewal clause reduces the probability of a price increase by 12.2 percentage points. For a highly entrenched supplier with 20 prior contracts, this probability is slashed by 37.3 percentage points.

**Table 5. Predicted Probabilities of Rate Increases**

| Agency-Supplier History | No Renewal Expectation (Renewal=0) | With Renewal Expectation (Renewal=1) | Difference (Constraint Effect) |
|-------------------------|------------------------------------|--------------------------------------|--------------------------------|
| 5 contracts             | 68.7%                              | 56.5%                                | -12.2%                         |
| 10 contracts            | 81.5%                              | 61.8%                                | -19.7%                         |
| 15 contracts            | 89.0%                              | 60.7%                                | -28.3%                         |
| 20 contracts            | 91.0%                              | 53.7%                                | -37.3%                         |

Note: Table includes predicted probabilities from Model 4, not the actual percentage size of rate increases. Control variables are held at their means.

This gradient is visualized in Figure 1, which shows the widening gap between the trajectories of contracts with and without renewal expectations. This demonstrates that this low-cost policy tool is most fiscally protective precisely where the risk of supplier hold-up is greatest.



Beyond our core theoretical variables, the model also reveals that context is important. The significant effects for specific years, such as 2008 and 2016, likely reflect heightened fiscal scrutiny during the financial crisis or during an election year, which universally suppressed rate increases.

Similarly, agency-specific effects suggest that certain policy domains (e.g. Natural Resources and Medicaid) may be inherently more vulnerable to pricing pressure, possibly due to specialized expertise or complex federal funding streams. These findings underscore that while our dual-anchor model is powerful, it operates within a broader political and administrative ecosystem. Average marginal effects in table 6 confirm this.

**Table 6.** Average Marginal Effects for Selected Years and Agencies

| <b>Year</b> | <b>Coefficient</b> | <b>Standard Error</b> | <b>p-value</b> | <b>Average Marginal Effect</b> |
|-------------|--------------------|-----------------------|----------------|--------------------------------|
| 2008        | -2.670             | 1.038                 | 0.010**        | -0.548                         |
| 2016        | -2.046             | 1.009                 | 0.043**        | -0.461                         |

| <b>Agency</b>             | <b>Coefficient</b> | <b>Standard Error</b> | <b>p-value</b> | <b>Average Marginal Effect</b> |
|---------------------------|--------------------|-----------------------|----------------|--------------------------------|
| Dept of Natural Resources | 1.993              | 0.674                 | 0.003***       | +0.416                         |
| Medicaid                  | 0.800              | 0.400                 | 0.046**        | +0.212                         |

*Note:* \*\*  $p < 0.05$ , \*\*\* $p < 0.01$

Specifically, the average marginal effects (AME) represent the average decrease in probability of rate increases compared to the reference year (2019), while holding all other variables at their observed values. Contracts from 2008 had a 54.8 percentage point lower probability of experiencing a rate increase compared to the reference year and contracts from 2016 had a 46.1 percentage point lower probability of experiencing a rate increase. Likewise, the Department of Natural Resources shows a 41.6 percentage point higher probability of experiencing a rate increase, a substantial effect that is also significant ( $p = 0.003$ ), while Medicaid shows a 21.2 percentage point higher probability of experiencing a rate increase, significant at the conventional level ( $p = 0.046$ ).

## Post-Hoc Robustness Checks

We subjected these findings to a series of robustness checks, and the core story holds firm. Alternative model specifications (OLS and Heckman selection in Table 4) yield consistent results. Furthermore, as summarized in Table 7, the results are not driven by outliers; when we dichotomize relational history and break it down into two groups (high and low) based on the median, the constraining effect of the renewal clause becomes even more pronounced. Importantly, we investigated the alternative explanation that rate increases reflect ‘learning’ or legitimate cost adjustments. Textual analysis of amendments found almost no evidence of expanded work scope (only 3 amendments) and the absence of competition and performance reviews makes shading the most plausible mechanism. The collective evidence strongly points to our behavioral interpretation. Lastly, the political cycle effects align with shading behavior rather than efficient adaptation. We conducted additional robustness checks by splitting the sample at the median relationship history. Results confirm our main findings: renewal expectations significantly constrain rate increases particularly in high-history relationships, and the curvilinear pattern persists. These checks strengthen confidence in our theoretical framework. The results support a theory of complementary governance where institutional signals and informal relational dynamics jointly shape contractor behavior. Renewal expectations serve as effective constraints on relational pricing power, particularly in mature relationships where opportunism risks are highest.

**Table 7.** Comparison of Results with and without Outliers

| Variable                       | Full Sample Results With Outliers | Partial Sample Results Without Outliers            | Interpretation                                                                                                |
|--------------------------------|-----------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Renewal main effect            | Negative but insignificant        | Strongly negative and significant (-1.00; p=0.260) | Clearer evidence that formal expectation of renewal lowers rate when accumulated history reaches a threshold. |
| Relational history main effect | Positive and significant          | Positive and highly significant (.0070; p= 0.0125) | Relationship history remains a strong predictor of higher rate increases, even after outlier removal          |

**Table 7.** Comparison of Results with and without Outliers

| Variable                                      | Full Sample Results With Outliers       | Partial Sample Results Without Outliers                    | Interpretation                                                                                                       |
|-----------------------------------------------|-----------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Renewal X History                             | Negative, but marginally insignificant  | Strongly negative and highly significant (-0.009; p=0.017) | Stronger evidence that renewal clauses moderate (attenuate) the positive effect of relational ties on rate increases |
| High relationship history                     | Not included in original sample         | (1.110; p=0.250)                                           | Significant result. High relational history increases rate increases substantially without a moderating renewal.     |
| Renewal X high relationship history X renewal | Not included in original sample         | (2.74; p=0.374)                                            | Significant result. Strong negative moderation: Renewal expectation suppresses relational effect on price increases  |
| Robustness of Start Year and Agency Dummies   | Some years and agencies not significant | Fewer years and agencies not significant                   | Outliers masked temporal patterns; reduced sample shows more structured variation over time                          |
| N                                             | 413                                     | 210                                                        |                                                                                                                      |
| Model Fit (R <sup>2</sup> )                   | 0.51 (moderate)                         | 0.76 (very high)                                           | Removing outliers greatly improves model fit and precision                                                           |

As shown in table 7, results of the samples with and without outliers are highly consistent, adding confidence to the argument that the relationship between relational governance and pricing is dynamic, conditional, and moderated by policy guidelines that create a shadow of the future.

## DISCUSSION

This study set out to investigate how informal governance mechanisms, policy-based renewal expectations and accumulated relational history, interact to shape pricing behavior in public contracts. Our findings provide strong, nuanced evidence that advances contract theory by

illuminating the behavioral micro-foundations of relational governance. They demonstrate that a simple, low-cost policy tool can actively structure the “interpretive environment” of a contract, recalibrating perceived entitlements and constraining opportunism.

### **Relational History as a Double-Edged Sword: Confirming and Refining Existing Tensions**

Our results first confirm the dual nature of relational history, a long-debated concept in the literature (Levinthal and Fichman, 1988; Kumar, 1999). We find a significant positive relationship between the accumulation of past contracts and the likelihood of a price increase, supporting H2b. This aligns with the “dark side” of the shadow of the future, where accumulated history grants suppliers bargaining power and can lead to relational lock-in, a pattern consistent with Kumar’s (1999) finding that entrenched relationships allow underperforming suppliers to secure favorable renegotiation terms.

However, the primary contribution of our analysis lies not in confirming this direct effect, but in revealing how it is powerfully conditioned by institutional signals. Our finding of a curvilinear relationship (evidenced by the negative squared term) further refines this understanding: the supplier’s leverage increases with history but eventually plateaus. This suggests a point of diminishing returns for opportunism or a ceiling on the government’s tolerance, adding a new layer of nuance to the literature on relational entrenchment.

### **The Constraining Power of Renewal Expectations: A Behavioral Resolution to a Theoretical Dilemma**

The core of our theoretical framework asked whether renewal expectations and relational history act as substitutes or complements. Our results provide clear support for the substitute effect (H3a). The significant negative interaction term reveals that a policy-based renewal expectation systematically attenuates the positive relationship between relational history and rate increases. This finding offers

a compelling behavioral resolution to the tension exemplified by studies like Gagnepain and Ivaldi (2017), who showed how flexible, cost-plus contracts in public transport could facilitate political capture. Our results demonstrate that not all flexible arrangements lead to capture; the *type* of flexibility matters. A renewal clause introduces a specific, forward-looking flexibility that actively counteracts the relational capture inherent in long-term relationships. It does so by shifting the supplier's psychological reference point from a backward-looking entitlement to profit, toward a forward-looking entitlement to the relationship itself. This dynamic operationalizes the *rule of prohibition* (Kahneman et al. 1986), as the supplier forgoes short-term gains to avoid violating the fairness norm against exploiting a partner whose future business is assured.

The substantive significance of this effect is striking. As shown in Table 5, the constraining effect of the renewal clause grows stronger as the relationship deepens. For agencies with a history of 20 contracts, the renewal clause reduces the probability of a price increase by over 37 percentage points. This means that the institutional signal is most fiscally protective precisely where the risk of supplier hold-up is greatest, in highly entrenched relationships. This provides a direct empirical counterpoint to theories of regulatory capture (Stigler, 1971) by showing that a simple institutional design can counteract the gravitational pull of relational lock-in.

### **Alternative Explanation: Are rate increases shading or learning?**

To empirically validate our theoretical interpretation that these rate increases represent shading rather than efficient adaptation, we conducted a series of probe analyses (see for example, Mayer and Argyres 2004). If the increases were driven by learning or changing scope, we would expect to see evidence of expanded work or formal performance reviews in the amendments (Kassin et al. 2010). Our analysis of the 430 contract texts reveals a starkly different picture: only three amendments included expanded scope, and fewer than five referenced formal performance reports. Also, only

four contracts in the dataset are subject to competition, a condition ripe for shading. Furthermore, the significant dampening of rate increases near elections is consistent with a behavioral logic of suppressed opportunism under scrutiny, not a rational learning process. This collective evidence strongly corroborates our shading-based interpretation.<sup>4</sup>

### **Theoretical and Practical Implications: From Observing Relationships to Actively Governing Them**

The findings have important implications for contract theory. First, they advance behavioral contract theory by moving beyond established questions about *whether* relationships matter (Poppo and Zenger, 2002; Cao and Lumineau, 2015) to demonstrate *how* their economic consequences can be actively governed. They provide a behavioral micro-foundation for informal governance by showing that a soft policy signal can substitute for the deterrent effect of market competition. The renewal clause operates not through legal enforceability but by reshaping the psychology of the relationship, making the “shadow of the future” sufficiently tangible to curb short-term opportunism. In doing so, this study directly addresses Macchiavello’s (2022) challenge of measuring the “value of future relationships” and bridges the macro-level design of procurement systems with the micro-level behavioral logic of Hart and Moore’s (2008) contracts-as-reference-points framework. In addition, the findings extend Brown, Potoski, and Van Slyke’s (2013) model of complex contract management by identifying perceived fairness and entitlements as the behavioral mechanism that links formal policy signals to informal relational dynamics. Finally, they bridge the relational governance literature (Gil and Marion, 2013; Chuang et al., 2020) with the emerging

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<sup>4</sup> Ideally, we could benchmark amended rates against prevailing market standards to help determine whether changes reflect legitimate price adjustments. This is not possible because we cannot determine from the data who actually performed the legal work or what rate was charged.

behavioral-relational synthesis (Frydinger et al., 2019), demonstrating empirically that sustaining cooperation under uncertainty requires fairness to be both *felt* relationally and *formalized*.

Second, this study underscores an additional role for policy officials and public management. Results show that effective contracting is not just about drafting legally sound agreements, but about proactively crafting the interpretive environment in which those agreements are executed. Policy officials and public managers are not simply passive observers of relational dynamics; they can use low-cost policy tools to actively structure expectations and steer behavior toward cooperation. The renewal clause is a prime example of such a tool, a behavioral lever that is both easy to implement and powerfully effective. Study findings also connect to Domingos et al. (2025), who emphasize that administrative discretion can enhance adaptive contracting. Here, renewal provisions perform a similar function by granting structured discretion that signals continuity while preserving fairness boundaries. Together, these studies suggest that government buyers can design procedural flexibility that promotes cooperation without inviting opportunism.

The findings on the null result of competition (due to its rarity in our dataset) and the significant effects of specific years and agencies (Table 6) underscore another key point: the formal rules of procurement and market structure are often less determinative than the relational and behavioral context in which contracts are managed. This pattern corroborates the broader insight from Bosio et al. (2022) that procurement *practices* and their interpretive environment are more consequential for outcomes than the formal design of procurement laws or market rules alone. This is particularly true in professional services like legal counsel, where measurement issues make quality elusive and render traditional monitoring especially challenging (Hood 2006). In such contexts, managing relational expectations through mechanisms like renewal clauses may prove more effective than attempting to perfect formal performance metrics that inevitably capture only partial aspects of value.

The significant fixed effects for specific years, such as 2008 and 2016, further reinforce the behavioral and contextual nature of pricing dynamics. These periods of economic crisis and presidential transitions likely heightened fiscal and political scrutiny, intensifying the threat of political and administrative scrutiny from superiors, auditors, and the public. This heightened oversight appears to have made agencies more resistant to perceived unfair price demands and suppressed suppliers' willingness to shade. This external pressure effectively strengthened the government's bargaining position, suppressing the supplier's tendency to shade, much like the renewal clause does relationally.

### **Boundary Conditions and Future Research**

This study has limitations that suggest fruitful avenues for future research. Although we focused on a single service category (legal services), the theoretical logic of our findings suggests applicability to other services. Legal services represent a critical case of complex contracting, characterized by high asset specificity, severe information asymmetry, and hard-to-verify quality, all of which are features shared by many professional services (e.g., IT consulting, management advisory, and engineering). The demonstration that a simple policy cue can powerfully shape behavior in such a challenging environment provides a strong rationale for its efficacy in less complex contracting settings. The mechanisms we identify, including relational entitlement and institutional reference points, are fundamental to contracting relationships, suggesting our dual-anchor framework should generalize to other contexts where incomplete contracts and repeated interaction are the norm. However, applying this framework to other complex services would further refine their boundaries and power.

This study also focused on a single state, Indiana and state-level contracts and there could be questions about whether results are generalizable in other jurisdictions or other level of government. Cross-jurisdictional comparisons could test how different governance systems temper the effect.

In addition, while we theorize the behavioral mechanisms of perceived entitlements and fairness norms, our data does not include direct psychological measures of the contracting parties. Future research could combine contractual data with surveys or experiments to directly observe these mediating psychological states.

In conclusion, this study demonstrates that the governance of complex contracts hinges on the interplay of informal anchors from the past and the future. While accumulated history can create supplier leverage or relational lock-in, a clear institutional signal of continuity can counter the effect. By integrating relational and behavioral theories, we show that effective public management involves not just managing contracts, but strategically managing the expectations that sustain them.

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## Appendix 1. Research Comparison and Unique Contributions

| Author(s) & Year                   | Core Claim                                                                                             | Key Findings                                                                           | Relationship to Present Research                                                                                                                                                                                 |
|------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bartling et al. (2015)</b>      | Contract specifications influence fairness perceptions and can increase conflict.                      | Complex contracts can backfire if outcomes misalign with expectations.                 | <p><b>Alignment:</b> Demonstrates that expectations anchor perceptions.</p> <p><b>Contrast:</b> Focuses on formal complexity; present research examines informal relational depth.</p>                           |
| <b>Brown et al. (2013)</b>         | A framework for managing complex public contracts by balancing formal rules and relational mechanisms. | Emphasizes formal governance rules and third-party monitoring to structure discretion. | <p><b>Alignment:</b> Draws on relational contract theory.</p> <p><b>Contrast:</b> Adds analysis of how non-binding policy cues affect behavior, incorporating behavioral contract theory.</p>                    |
| <b>Chuang et al. (2020)</b>        | Relational mechanisms generate collaboration benefits but can introduce inefficiencies.                | Relational ties can protect underperformance and increase costs.                       | <p><b>Alignment:</b> Supports relational governance's downsides, including rent-seeking.</p> <p><b>Contrast:</b> Present research extends to price changes via renegotiated amendments.</p>                      |
| <b>Domingos et al. (2025)</b>      | Greater government discretion in contract awards leads to more positively perceived renegotiations.    | Discretion can benefit complex contract management by enabling adaptability.           | <p><b>Alignment:</b> Both examine flexibility in public contract management.</p> <p><b>Contrast:</b> Focus on discretion benefits; present research focuses on prior relationships and renewal expectations.</p> |
| <b>Erlei &amp; Reinhold (2016)</b> | Endogenous contract choice influences entitlement feelings and shading.                                | Self-selected contracts trigger stronger entitlement than imposed ones.                | <p><b>Alignment:</b> Ex ante renewal expectation functions similarly to contract choice.</p>                                                                                                                     |

| Author(s) & Year      | Core Claim                                                                             | Key Findings                                                                          | Relationship to Present Research                                                                                                                                                                               |
|-----------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       |                                                                                        |                                                                                       | <p><b>Contrast:</b> Uses experiments; present research uses actual policy and contracts.</p>                                                                                                                   |
| Fehr et al. (2011)    | Shading is more prevalent under flexible contracts due to expectation mismatches.      | Less shading in rigid contracts; more in flexible ones despite payoff changes.        | <p><b>Alignment:</b> Shows policy-based expectations moderate shading.</p> <p><b>Contrast:</b> Explains shading via competition; present research emphasizes entitlement perceptions.</p>                      |
| Gibbons et al. (2023) | Tests rules vs. principles in relational contracts under environmental change.         | Principles improve quality coordination post-shock but struggle with price alignment. | <p><b>Alignment:</b> Supports that mutual understanding, not enforceability, underpins adaptation.</p> <p><b>Contrast:</b> Tests principles; present research explores informal expectations like renewal.</p> |
| Gil & Marion (2013)   | Relational contracting facilitates adaptation under uncertainty.                       | Long-term relationships improve flexibility and performance.                          | <p><b>Alignment:</b> Relational history enhances cooperation.</p> <p><b>Contrast:</b> Highlights benefits; present research examines cooperation benefits and pricing leverage.</p>                            |
| Hart & Moore (2008)   | Contracts serve as reference points for entitlement; unmet expectations cause shading. | Shading occurs when outcomes violate contract-based expectations.                     | <p><b>Alignment:</b> Salience of reference points in setting expectations.</p> <p><b>Contrast:</b> Focuses on formal contracts; present research extends to non-binding policy cues.</p>                       |