Title Page

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Your Competitive Side is Calling: An Analysis of Florida Contracts

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Your Competitive Side is Calling: An Analysis of Florida Contracts

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Abstract

Competition over the allocation of scarce resources is frequently used as a theoretical underpinning in public administration research. With the rise of the business-like approach espoused by adherents of “new public management,” competitive mechanisms are increasingly used in the public sector as means to improve performance. Despite the wide acceptance of competition as a viable method to improve public management, little large n empirical work has been done to determine whether competition actually improves performance, especially in the networked setting. Analyzing more than 20,000 Florida contracts over a three year period, this research explores whether competitive sourcing procedures lead to improved contractor performance. Results show that competitive sourcing activities are associated with more terminations for cause, not fewer. Other factors, most notably experience, previous relationships, and reduced transaction costs, are more likely lead to better performance.
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Introduction

One of the tenets of many social sciences is that competition leads to improved performance. Though competitive mechanisms have been commonly referenced in public administration scholarship as a component of new public management (NPM), the power of competition has always been central to the American political system. In *Federalist No. 51* James Madison charges that government must be structured to align branches in direct competition against one another, with ambition set to counter ambition (Madison 1788). Madison argues that such a system fragments authority and reduces the possibility of concentrations of power. The ideas presented in *The Federalist* led to the constitutional system of checks and balances that undergird American governmental structures. Competitive mechanisms have played an important role in American political culture since the nation’s earliest years.

This paper assesses whether competition influences contractor performance in Florida. Using data from the Florida Accountability Contract Tracking System (FACTS), I assess whether competitively bid contracts are more or less likely to terminate early. Terminations signify poor performance, while completed contracts indicate satisfactory performance. Contracting is an under-studied area in public administration, often driven by ideological preferences rather than the empirical study of individual contracts.

In recent years, some have advocated for making government more businesslike, particularly through competitive, market-based approaches (Osborne and Gaebler 1992). Specific mechanisms have included privatization, contracting out, and competition between government agencies over scarce resources (Savas and Schubert 1987, Salamon 2002). In theory, businesslike government can improve efficiency. Competition is theorized to drive down prices
and boost accountability. This is consonant with the common refrain that governments need to “do more with less” that originated under Al Gore’s National Performance Review (Gore 1993). Market competition seemingly provides a silver-bullet for one of the long-standing problems in public administration: increasing both efficiency and accountability simultaneously.

Despite this promise, little has been done to assess whether competition is actually improving performance. Theoretically, competitive contracts, which benefit from market forces, should perform better than non-competitive contracts. Indeed, early research suggested that market mechanisms could reduce costs (Savas 1977, Savas and Schubert 1987, Bingman and Pitsvada 1997). However, there is also increasing evidence that cooperation and collaboration may also improve performance, especially given the complexity of modern public problems (Denhardt and Denhardt 2000, Agranoff 2005). Scholars favor collaboration argue that complex relationships between partners with diverging goals require active management, including establishing conditions of dependence, processes for management, and building interpersonal trust, norms, and mutuality (Agranoff 2005, Thomson and Perry 2006). Building on competition and collaboration research, this paper analyzes how each affects contractor performance.

The next section introduces overarching question for this research. Then I describe the literature on competition across the social sciences, where findings about the effects of competition vary. The literature review undergirds the hypotheses, which are introduced following the relevant literatures. Then, the paper presents the data used and describes the variables. The subsequent section discusses the analytic findings. This research concludes with implications for both scholars and practitioners of public administration.
Research Question

Social scientists have long studied the effects of competition. Due to varying assumptions and different methods of incorporating context, findings across different disciplines are contradictory. Economic theories favor competitive markets and associated pricing efficiency. Sociology and social psychology theories indicate that the success of competition depends on the context, particularly relationships, traits, and environmental conditions. Management research in business and public administration has been more concerned with how to use competitive mechanisms to improve performance, manage organizations, and engage markets.

To this point, no large \( n \) study in the public management literature has addressed whether competitively sourced contracts perform better than non-competitive contracts. Competitive sourcing is the process through which governments invite private contractors to submit bids, proposals, or other forms of negotiated quotes. The research question for this paper is:

*Does competition of government contracts lead to improved contractor performance?*

This question focuses on contract outcomes, recognizing that contracts are more than just the initial investment: outcomes matter too. To measure performance, this paper looks at the way that contracts conclude. In Florida, contracts end in four primary ways, all of which provide some insight into contractor performance: closeout, extension, renewal, and termination.

There are theoretical reasons to believe that competition can both improve and reduce performance. Context is very important, as the effect of competition can be dependent on the characteristics of the actors, the purpose of the interaction, and the circumstances surrounding the exchange. This analysis provides insight into the impact of competition on performance while accounting for these important environmental factors. The following section introduces the literature on competition across the social sciences.
Literature Review: Competition in the Social Sciences

The traditional view of competition comes from economics, where Adam Smith held that competition was the primary motivating factor in markets (Smith 1776). Competitive consumer demand causes prices to rise when demand is high and goods are scarce. Conversely, when demand is low and a good is plentiful, prices fall as sellers compete to offload products. The competition between buyers and sellers leads to an efficient distribution of resources. This distribution results in the lowest possible prices for goods. Over the long run, competition means limited profits for suppliers, but there is the possibility of profit through short term innovation, which allows temporary advantage. As a result, competition is an equalizer. It lowers prices for consumers. It guarantees innovation, as suppliers strive to make short term profits. Consumers hold suppliers accountable for their performance through purchasing power, and competition from other firms helps increase accountability for product quality. In theory, government intervention in the marketplace should be limited to preserve competition and reduce distortions (Weimer and Vining 2005). Making government services more competitive might improve efficiency. If government agencies were more competitive, or outsourced public projects, competition could lower costs. This leads to the first hypothesis for this research:

\[ H_1: \text{Competitively sourced contracts are more likely to be renewed and less likely to be terminated early than non-competitive contracts.} \]

Sociologists are less sanguine about competition and efficiency. In a sense, competition provides people within organizations an opportunity for change that might not be possible otherwise. When confronted with competition, existing organizations can attempt to destroy their competition, withdraw from the battle, try to adapt to the situation, or seek to specialize (Ross 1919). The approach taken is based on the context of the competition. Flexible, well-endowed organizations are more likely to benefit from competition (Carroll and Harrison 1994). For
individuals, Blau finds that workplace competition that ignores organizational culture and task complexity does not always improve performance (Blau 1954). More difficult tasks may require cooperation for optimal performance. Related studies suggest that, instead of acting as utility maximizers, interpersonal relationships are cooperative, based on norms, including morality, that constrain pursuit of individual satisfaction (Rokeach 1973, Durkheim 2014). Context is important for competition, including the social structures that connect people and organizations.

Social psychologists examine the effect of competition on individual and group behavior, particularly its effect on self-opinion or the ability to perform tasks. Research shows that competition has both positive and negative effects on performance. Competition between individuals improves the performance of simple tasks, but is less successful for more difficult work (Goldman, Stockbauer and McAuliffe 1977). Individuals are less likely to be competitive than groups, as group membership generates a search for adversaries (McCallum et al. 1985). Individuals who perform better in competition tend to be active, strategic competitors that are able to perceive themselves as their competitors might (Burns and Vollmeyer 1998, Langevoort 2002). This suggests that winners of competitions may be more self-aware and innovative than their competitors. Goldman, Stockbauer, and McAuliffe (1977) find that for high complexity tasks, intragroup competition reduces performance. This could be part of the rationale for allowing intergovernmental contracts or indefinite delivery contracts (IDCs). For low complexity tasks intragroup competition can spur performance in the presence of intergroup competition. Other studies have also shown that intergroup competition leads to improved performance, but suggest that there are few benefits to intragroup competition (Burton-Chellew, Ross-Gillespie and West 2010). A meta-analysis of 64 studies of task performance found that cooperation led to better performance than competition (Stanne, Johnson and Johnson 1999), suggesting that
competition has contextual benefits but ultimately may not be as productive as working together (Kohn 1992). The effectiveness of competition varies based on contextual elements, including individual/group dynamics, psychological traits, and task complexity.

Management research on competition is interdisciplinary, incorporating economics, sociology, and psychology. Beersma et al. find that competition can improve the speed with which tasks are completed, but that cooperation results in better quality (Beersma et al. 2003). Competition between groups can be affected by group dynamics and the intensity of the competition (Baer et al. 2010). Organizations in close proximity are more likely to be highly competitive than distant competitors (Barnett and Carroll 1987). Competitive intensity also depends on experience and previous interactions (Kilduff, Elfenbein and Staw 2010). Social structures, that is shared ties, previous relationships, and other relational effects tend to reduce the power of competition (Polidoro, Ahuja and Mitchell 2011). Organizational effectiveness in competitive marketplaces can hinge on contextual factors like centralization, control, and external pressures (Simonetti and Boseman 1975, Walker and Weber 1987). Again, contextual factors such as relationships, market conditions, and traits influence the effectiveness of competition. The findings from sociology, psychology, and management lead to the second and third hypotheses for this research:

\( H_2: \) Experienced contractors, those with established relationships with the state of Florida, are more likely to be renewed and less likely to be terminated early than first-time contractors.

\( H_3: \) Non-profits and local governments, organizations that are more likely to share state priorities, are more likely to be renewed and less likely to be terminated early than other types of contractors.
There has been limited study of competition in public administration. DeHoog notes that competition can be limited by market characteristics and uncertainty associated with government funding (DeHoog 1990). Osborne and Gaebler (1992) assert that competition can result in greater efficiency, increase responsiveness, reward innovation, and boost the morale of public employees. Savas, whose evidence Osborne and Gaebler incorporate into their argument, found that contracting out for refuse collection in Minnesota reduces cost, which he attributes to efficiency gains from competition (Savas 1977). He also finds evidence that competition between public and private provision can reduce refuse collection costs in other cities (Savas 1981). Savas’ work centers on initial investment, rather than the outcomes of service provision. For many government contracts, outputs and outcomes are as important as the initial investment. Savas also presents evidence that bidding processes appear to be competitive in New York, with high numbers of bids received in response to requests for proposals (Savas 2002). However, the number of bids received does not necessarily reflect the actual competitiveness of the marketplace without information on bid quality (Hefetz and Warner 2011).

Though frequently cited, it is worth noting that Savas’ studies focus on services with low transaction costs (Brown, Potoski and Van Slyke 2006). Governments often contract out for more complex goods and services for which there are limited markets, which can increase risk and may reduce the impact of competition (Brown and Potoski 2003). Management complexity can also surface, especially in contracts that involve more than two players or intergovernmental transfers of funds (Curry 2010). Romzek and Johnston suggest that certain types of contracts, such as those for social services, training, information technology, and research, are harder to price based on market characteristics (Mitchell and Singh 1996, Romzek and Johnston 2002). In these instances, public officials struggle to find comparisons, making pricing more difficult
(Sclar 2001). Other articles use market competitiveness as an indicator of potential transaction costs (particularly those related to asset specificity and uncertainty) in an effort to assist public managers with the make or buy decision (Brown and Potoski 2003, Brown, Potoski and Van Slyke 2006, Brown, Potoski and Van Slyke 2009, Johnston and Girth 2012). Transaction costs, and particularly uncertainty, lead to the fourth hypothesis for this research:

\[ H_4: \text{Contracts for products where requirements are hard to identify, increasing transaction costs, are more likely to be terminated early or require extension for work to be completed.} \]

There are international studies of the effect of competition on contracting in other nations, which find varying influences based on governmental structure, political factors and market characteristics (Bryntse and Greve 2002, Jing and Chen 2012). In the U.S., Malatesta and Smith find that the threat of competition can result in concessions to government agencies (Malatesta and Smith 2011). Romzek and Johnston examine five social services contracts in Kansas and find evidence that market competition can influence the effectiveness of contract management (Romzek and Johnston 2002). As government resources dwindle, public agencies are more likely to recoup resources from poorly performing contractors to the greatest degree possible (Cooper 2003). At the same time, they are more likely to forego the transaction costs associated with re-competition of high-performing contractors, instead opting to renew these efforts (Johnston and Romzek 1999, Bajari and Tadelis 2001, Brown, Potoski and Van Slyke 2006). These studies suggest that public contract managers in the U.S. can benefit from competition, both in the favorability of contractual terms and the ability to monitor the contractor. Public contracting officials are likely to use financial transactions as indicators of performance. This leads to a final hypothesis:
H5: Public managers are more likely to extend or renew contracts that have received additional resources, and are more likely to terminate contracts that have had resources taken away.

**Data and Methodology**

The data used in this analysis comes from the Florida Accountability Contract Tracking System (FACTS). The state passed the Transparency Florida Act in 2011 (Florida, Title XIV, 215.985). This legislation mandates that “The Chief Financial Officer shall provide public access to a state contract management system that provides information and documentation relating to contracts procured by governmental entities” (Florida 215.985(16)). FACTS is the tool that the Florida Department of Financial Services developed in response to this legislation. Legally, the system is required to include the contracting agency, the method of procurement, contract beginning and end dates, the type of commodity or service provided, the amount to be paid, performance information, the financial actions taken on the contract (including whether intergovernmental funds were used), contract violations, and the number of extensions or renewals (Florida 215.985(16)(a)). Contracting officials are required to update the system within 30 days of major changes (extensions, renewals, and terminations). FACTS includes information on all contracts and grants that ended after February 29, 2012 and all purchase orders that were made after July 1, 2013.

The unit of analysis for this research is the individual contract. This analysis focuses on standard contracts between two or more parties, excluding purchase orders, grants, memoranda of understanding, master agreements (IDCs), revenue agreements, and other types of contracts. The resulting data set is a pool of 20,352 individual contracts that concluded between February 29, 2012 and October 1, 2015. Descriptive statistics are provided in table 1. Of note, the average
contract lasted just over two and a half years. 63 percent of the contracts went to contractors who had five or more contracts with the state of Florida, while 17 percent went to new contracts. 98 percent of the contracts were for services, with only two percent for commodities, which tend to be procured through purchases orders instead of standard contracts.

--- Table 1, approximately here ---

The variable of interest for this research is the categorical outcome of the contract: closeout, extension, renewal, and termination. Though these categories indicate different things about performance, they are difficult to order consistently. Though termination is clearly the worst outcome and renewal the best, ordering closeout and extension is challenging. Extensions may indicate either a willingness to avoid transaction costs or a need to add time to a contract due to poor contractor performance. As a result, extension could indicate both good and bad performance, making ordering difficult. In addition Brant tests confirm that parallel regression assumptions, critical for ordered logistic regression models, are violated with this data. As such, multinomial methods are appropriate as this technique is able to estimate coefficients for categorical variables without the assumption of ordering. None of the correlation coefficients between the variables used in this model approach 0.7, indicating that the potential for multicollinearity is low. In addition, Hausman tests for the independence irrelevant alternatives assumption (IIA) demonstrate that there are systematic differences between the categories, suggesting that the distinctions between them are meaningful. This is important, as it indicates that, for public contracting officials, there are real differences between the contract outcomes used in this analysis. This research applies the broad model shown below:
In this model, contractor performance is conceptualized as a function of competitiveness and categories of control variables that cover characteristics of the contract, the contractor, the contracting agency, and the management actions taken on the contract. These categories of control variables include multiple measures of the context of the contract and are described in more detail in the following section.

**Variable of Interest: Contractor Performance**

In Florida, contracts end in four ways: closeout, extension, renewal, and termination. Closeouts are by far the most common way that contracts end in Florida, accounting for more than 95 percent of all contracts (see Table 2). Around 3 percent of contracts are renewed and just below one percent are terminated early. The remaining contracts (about 0.6 percent) are extended. Each of these contract outcomes is indicative of contractor performance.

First, contracts can be closed out normally. This implies that performance was sufficient to meet the requirements of the contract. Closeout indicates adequate performance. Because of the sheer number of contracts that end in this way, there is likely much variation within this category, and future research is needed to more clearly segment these contracts. However, in all cases, the public contracting official determined that performance was at minimum acceptable.

Second, contracts can be extended for a period not to exceed six months. This type of modification is used when work remains to be completed on the contract. This is possibly an
indication of an inability of the contractor to perform the work according to the agreed upon timeline. Extensions may suggest less than desirable performance. However, extensions could also be used to avoid re-competition (and the associated transaction costs) should a small amount of additional work be necessary, which could indicate acceptable performance. This particular contract outcome is what makes it difficult to order the contracts.

Third, contracts can be terminated early. This indicates that the contractor was not meeting the requirements of the contract and that the state decided to leave the arrangement. Termination is clear evidence of poor performance. Government incurs high costs when contracts are terminated, including costs of separation, re-competition, and re-integration that may not be immediately apparent.

Fourth, contracts can be renewed. This is an indication that government was happy with the performance and decided to keep the contractor for additional work and avoid transaction costs associated with re-competition. While it is possible that renewals can be evidence of sunk costs (see Staw and Hoang, 1995), this analysis adopts the approach of Fernandez (2007), who finds that renewal is indicative of high performance.

Contractual concluding status is a different performance variable than has been used previously in the study of public sector contracts. It has three primary benefits. First, the measure uses the contract manager’s overall performance assessment for the contract. Contracting officials are best suited to provide performance data on individual contracts, as they know the details of the work performed. As a result, the ending status of the contract is a real, practical measure of contractor performance. Second, the measure focuses on an informed assessment of contract outcomes. Public contracting officers take outcomes into account when monitoring performance, meaning that the way a contract ends reflects, at least in part, the perceived impact
of the contract. As a result, this measure goes beyond the initial cost to include some assessment of the effectiveness of the work. Similarly, it is an improvement upon perceptual measures rendered after the fact, which suffer from well-known shortcomings. Third, because the measure is consistent across contracts for different types of goods and services, it allows for comparability that previously was not possible in the study of contracts. A terminated contract, regardless of the product provided, is strong evidence of poor performance, while a renewed contract consistently indicates high performance. This allows for large n comparison of contracts for varying types of goods and services.

**Explanatory Variable:**

The primary explanatory variable used in this analysis is a dichotomous indicator of whether the contract was competitively sourced. A “1” indicates competition, while a “0” indicates contracts exempted from competition. In Florida, there are a variety of sourcing methods. The FACTS Code Validation Tables,\(^1\) which indicate procurement codes and their competitive status under Florida law, were used to classify contracts. Interestingly, just 29 percent of Florida contracts were competitively sourced (see table 1). This is much lower than the proportion of competitive federal contracts. According to the Federal Procurement Data System – Next Generation, 62.5 percent of comparable federal contracts that ended between 2005 and 2014 were competitive.\(^2\)

**Control Variables:**

As the existing literature on competition and contracting indicates, it is necessary to control for the context of the contract. To account for context, this analysis includes controls for

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characteristics of the contract, the contracting agency, characteristics of the contractor, the type of work to be performed, and indicators of managerial activity. The following subsections introduce each of these control variables, identify how they are operationalized, and provide a brief justification for their inclusion in the analysis.

*Contract characteristics:* the below variables control for the work to be performed on the contract, including its complexity and relative importance, which are thought to influence contractor performance (Brown, Potoski and Van Slyke 2006).

- **Length:** the duration of the contract in months. Longer contracts may indicate increased project complexity (Brown, Potoski and Van Slyke 2013).

- **Commodity:** a dichotomous indicator of whether the product provided is a simple commodity. Each record in FACTS includes a Florida Goods/Services ID (FLID). These IDs have been cross-referenced with the United Nations Standard Products and Services Codes (UNSPSC), allowing for rapid identification of goods and services. Just two percent of the contracts in this analysis are for commodities. Commodities tend to have thicker markets and lower transaction costs than many services (Brown, Potoski and Van Slyke 2006).

- **Consulting:** a dichotomous indicator of whether the contract was for consulting work, as indicated by the FLID and UNSPSC codes. Consulting is generally considered to be a complex service where uncertainty may be high (Tadelis 2002, Brown, Potoski and Van Slyke 2009).

- **Training:** a dichotomous indicator of whether the contract was for training, as indicated by the FLID and UNSPSC codes. Training is generally considered to be a complex
service where uncertainty may be high (Mitchell and Singh 1996, Brown, Potoski and Van Slyke 2013)

- **Construction**: a dichotomous indicator of whether the contract was for construction work, as indicated by the FLID and UNSPSC codes. Construction has a competitive marketplace and is generally considered a less complex service (Mitchell and Singh 1996).

- **IT**: a dichotomous indicator of whether the contract was for information technology goods or services, as indicated by the FLID and UNSPSC codes. IT is generally considered to be a complex service where uncertainty may be high (Mitchell and Singh 1996, Brown, Potoski and Van Slyke 2013).

- **Research**: a dichotomous indicator of whether the contract was for research, as indicated by the FLID and UNSPSC codes. Research is generally considered to be a complex service where uncertainty may be high (Tadelis 2002, Brown, Potoski and Van Slyke 2009).

- **Emergency.Ctrct**: a dichotomous indicator of whether the contract was established to respond to crises, as identified in the FACTS “Method of Procurement.” Emergency contracts are exempted from many of the regulations of other contracts, such as competition. During emergencies, uncertainty is particularly high. In addition, emergency contracts may be hastily written, have broad requirements, and can possibly lead to opportunism (Sylves 2014).

- **Log.Total.Amt**: the natural logarithm of the total amount of money spent on the contract. Costlier contracts may be more complex, involve more political interference, or be of
greater importance to the government or the contractor (Curry 2010, Brown, Potoski and Van Slyke 2013).

*Management actions:* the below variables are designed to control for management steps taken to influence contractor performance throughout the period of performance. Competition, the explanatory variable for this research, is a managerial decision, but is not discussed here as it has already been addressed in detail.

- **Twice.Initial.Spending:** a dichotomous indicator of whether the contract resulted in spending that amounted to more than twice the initial value of the contract. Contracting officials tend to be unwilling to spend additional resources on contracts that underperform (Cooper 2003).

- **Half.Initial.Spending:** a dichotomous indicator of whether the contract resulted in spending that amounted to less than half of the initial value of the contract. This is a relatively clear indicator that the contractor has not performed well, as resources are rarely pulled from highly performing contracts (Cooper 2003).

- **Intergovernmental:** a dichotomous indicator of whether the contract involves the intergovernmental transfer of funds from other parts of the state government. This is an indicator of management complexity, as the agencies involved may have different priorities for the contract and its management (Amirkhanyan 2009). In addition, it might signal a desire to reduce internal competition between state agencies (Agranoff and McGuire 2003).

*Contractor characteristics:* the below variables control for variations in contractor type and experience, as there are indications that both goal alignment and relationships can influence performance (Agranoff and McGuire 2003, Van Slyke 2007).
• **One.Contract**: a dichotomous indicator of whether the contract is the first contract with the state for the contractor. This indicates inexperience and a lack of existing relationships.

• **Five.Plus.Contracts**: a dichotomous indicator of whether the contractor has five or more contracts with the state during the time period studied. This indicates experience and the presence of relationships between government and contractor.

• **Local.Government**: a dichotomous indicator of whether the contract is with a local government. Local governments often share some state goals. As a result, the state may be more lenient with local governments and the timelines on their contracts (Berman and Martin 1988, Wood 2011).

• **NPO**: a dichotomous indicator of whether the contract is with a non-profit organization (NPO). NPOs share some of the same goals as governments (e.g., goal congruence), and may serve as stewards for public resources (Brown, Potoski and Van Slyke 2006, Van Slyke 2007). As a result, the state may be more lenient with NPOs.

• **University**: a dichotomous indicator of whether the contract is with a college or university. Generally, these contracts are for research, which is likely to have poorly defined requirements and uncertain timelines (Lowry 2004).

*Agency characteristics*: the below variables control for variations between agency type and agency service types. State agencies engage in contracts for different projects, and as a result confront marketplaces of uneven quality (Romzek and Johnston 2002). These variables control for the agencies that most frequently engage in contracts.
- **Environment**: a dichotomous indicator for contracts from the Department of Environmental Protection and the Fish and Wildlife Conservation Commission, which taken together account for 32 percent of Florida’s contracts.

- **Justice**: a dichotomous indicator for contracts from the Department of Highway Safety, Department of Juvenile Justice, Department of Law Enforcement, and Department of Corrections, which taken together account for 14 percent of Florida’s contracts.

- **Social.Services**: a dichotomous indicator for contracts from the Department of Children and Families, Department of Education, Department of Elder Affairs, Department of Health, and Department of Veterans Affairs, which taken together account for 13 percent of Florida’s contracts.

- **Transportation**: a dichotomous indicator for contracts from the Department of Transportation, which accounts for just over 36 percent of Florida’s contracts.

Taken together, these variables are designed to control for many of the contextual conditions that the literature review indicates influence the effectiveness of competition. In particular, these variables capture previous relationships, the presence of transaction costs (particularly uncertainty), organizational traits of both the contractor and government agency, and task complexity. As a result, this research is a comprehensive analysis of the effectiveness of competition given the impact many of the key contextual considerations.

**Results and Discussion**

The results of the analysis, shown in table 3, find no support for the hypothesis that competition improves performance. Instead, competitive contracts are more than twice as likely to terminate early and more than five times as likely to require extension. In addition, there is no significant relationship between competition and contract renewal. This shows that competition
is highly associated with performance problems and does not correlate with high performance. Economic conceptualizations of competition do not seem to explain contractor performance.

This is not to say that economic theory is wrong. Rather, it is perhaps evidence that some of the core assumptions about competition and performance are not met when considering public sector contracts. The public sector often contracts out for goods and services as a monopsony purchaser, increasing asset specificity and eliminating demand-side competition. It might also be argued that competition is indicative of the availability of substitutes. When performance is low, government can terminate the contract and easily find a replacement. Cooper (2003) indicates that early termination of bad contracts is a primary responsibility of government contracting officials. However, Cooper also acknowledges that terminations come with high transaction costs and can damage the reputation of both the government and the contractor, making this outcome unpopular with managers in practice. The Florida data does not provide insight into the number or quality of bids received or the commercial market for procured goods and services. As a result, it is difficult to make strong case for or against substitution. However, such data exists at the federal level, meaning that additional analysis is necessary. If contracts for commercially available goods are more likely to be terminated than contracts where government is the sole purchaser, then substitution may explain the effect of competition. If commercial contracts are not more likely to be terminated, then some other effect is the likely cause.

-- Table 3, approximately here --

While competition does not improve contract outcomes, contractor experience does positively influence performance. Contractors with five or more contracts are half as likely to
have contracts terminate early or be extended, but first-time contractors are 1.6 times as likely to be terminated early. Consistent with the second hypothesis, this finding suggests that the government incurs lower risk when working with experienced firms. However, there is no evidence to support the importance of experience for renewal. Experienced contractors are less likely to receive renewals. This indicates that relationships and experience can help ensure acceptable performance, but that experience is not associated with high performance. First-time contractors may have a higher potential for innovation.

Scholars in public administration have suggested that successful collaborative relationships require information seeking, adjustments, bargaining, and the development of cohesive relationships (Agranoff and McGuire 2003, Thomson and Perry 2006). Public sector contracts are increasingly for complex goods that require long-term relationships between public and private organizations (Brown, Potoski and Van Slyke 2009). Frequent re-competition means that relationship building must begin anew, increasing transaction costs (Brown, Potoski and Van Slyke 2013). My findings are consistent with this view of collaborative relationships, indicating that contractors with existing relationships are more likely to perform satisfactorily. However, new contractors are more likely to be renewed. This is evidence that market forces can still be used to spur innovation, as competitive victors are more likely to feel pressure to outperform the rest of the market in order to win follow-on work.

Non-profit organizations are nearly 40 percent more likely to be renewed than other contractors. However, NPOs are not significantly associated with termination or extension. This may be due to the type of work that nonprofits perform for governments (Van Slyke 2007), mutual trust (Getha-Taylor 2012), or the importance of more informal elements of the relationship between NPOs and governments (Gazley 2008). Local governments are three times
as likely to require extensions as other types of contractors. Local governments are not significantly associated with renewal or termination. Since Florida is a home rule state, this may indicate the state’s willingness to allow localities some discretion over contractual projects (Berman and Martin 1988). It may also be evidence of tension between localities and the state. Additional analysis could assess whether there are differences between rural and urban local governments, or if these tensions are driven by political differences between the locality and the state. The third hypothesis is partially supported, as NPOs are more likely to be renewed and neither NPOs nor local governments are more likely to be terminated early.

This analysis examines contracts for five specific types of work (consulting, training, construction, IT, and research) along with emergency contracts to assess if uncertainty in contract requirements correlates with contractor performance. Uncertainty is low in construction, since the market is thick and requirements tend to be better understood, but is high in all of the other four categories, as well as for emergency contracts (Mitchell and Singh 1996, Brown, Potoski and Van Slyke 2013). Interestingly, construction projects are not significantly associated with any of the three contract outcomes, suggesting that when projects have clear requirements, normal closeout is the most likely outcome. Since there is a competitive marketplace and new work would likely be re-bid, this is not surprising. Contracts for training services are 2.78 times as likely to be terminated early, and contracts for research are slightly more than twice as likely to be terminated. However, none of these types of work are significantly associated with extensions. Instead, contracts for consulting and research are much less likely to be renewed, while contracts for IT are more likely to be renewed. Counter-intuitively, this may be further evidence for the importance of uncertainty in contractual relationships. By re-hiring IT contractors, government agencies may be better able to reduce uncertainty associated. Tailored
information technology purchases may require long term support from informed contractors. Renewals may lower transaction costs and preserve institutional knowledge. Emergency contracts are nearly fifteen times as likely to be terminated early and nearly twelve times as likely to require extension. They are less than a third as likely as other contracts to be renewed. The findings provide strong support for the fourth hypothesis, indicating that for specific types of work where expectations can be hard to define (during emergencies or when contracting for research and training), uncertainty leads to a greater likelihood of early termination. These findings indicate that transaction costs and task complexity matter. As others have suggested, public managers should consider these factors when deciding whether to contract out for goods or services (Tadelis 2002, Brown, Potoski and Van Slyke 2009, Brown, Potoski and Van Slyke 2013). However, political interference or economic necessity may force government officials to contract out for these types of products. More research is necessary to determine how common this influence is and what management strategies can be adopted to improve performance. While competition may seem like a viable solution, markets for such complex products may be thin, reducing the impact that competitiveness can have on both price and accountability (Johnston and Girth 2012).

Finally, the analysis provides strong evidence that contracting officials in Florida use financial transactions to manage contractor performance and transaction costs. Contracts that receive funding amounting to twice their initial value are more than ten times as likely to be renewed as other contracts. This demonstrates that when performance is good, public contracting officials attempt to reduce transaction costs associated with re-competition, instead opting for the cheaper, easier renewal. This is additional evidence that relationships are important in contracting, and that competition can incur costs that reduce performance. At the
same time, contracts where less than half the funding is dispersed are more than nine times as likely to be terminated. When performance is low, contracting officials recoup resources and are more likely to terminate relationships. These findings are strong support for the fifth hypothesis.

**Conclusion**

According to economic theory, market competition should improve contractor performance and lead to better outcomes for public projects. However, this research indicates that competition does not improve performance. Instead, competitive contracts are significantly and substantially more likely to require extensions or to be terminated for poor performance. This suggests that blind devotion to market competition is misplaced. The context of government contracting suggests that assumptions about ideal market conditions are hard to meet due to the types of products that governments need. As a result, decisions about competition should be based on task complexity, the uncertainty associated with contract requirements, and the quality of the relationship between the contractor and the government. Experienced contractors are less likely to be terminated early and more likely to perform acceptably. Projects with higher levels of uncertainty, such as training and research, are more likely to terminate early, as are emergency contracts.

The findings of this research are promising, but they suffer from external validity problems. Since this is a case study of Florida contracts, generalizability may be limited to states with similar political climates and procurement needs. However, since Florida is such a large state and the number of contracts examined is so high, this is the strongest evidence yet about the effect of competition on performance. An additional drawback is the comparative rarity of the contract outcomes of interest. The small number of cases (comparatively) may be a problem for the regression techniques used, though experts seem to disagree on a rule of thumb with regard
to sample size (King and Zeng 2001, Bradburn et al. 2007). Segmenting the closeouts based on financial transactions may provide a way to study performance outcomes more convincingly.

Further research is necessary to determine if other jurisdictions (federal, state, and local) experience similar effects of competition. More focused analyses could attempt to determine if competition leads to substitution, which would indicate potential performance improvements through early termination. Including additional variables about market conditions (number and quality of bids received, presence of other buyers, etc.) is necessary to address substitution more fully. A comparison with purchase orders, goods for which there is a clearly established market, might also be useful.

For practitioners, this research indicates that competition should be approached as one of many management tools in the arsenal of the public contract manager. Competition is costly, so should be used only if it can improve performance. Where markets are weak, if transaction costs are high, when requirements are uncertain, or where strong relationships already exist, competition may not enhance contract outcomes. Experienced contractors may be more reliable, while new contractors have potential for innovation but also increase the risk of poor performance. The context of the contract and the competitive marketplace matters. The management decision to competitively bid a contract is important for contractor performance. One thing is clear: competition is not the silver bullet that many trumpet it to be.
### Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
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</thead>
<tbody>
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<td>0.20</td>
<td>0</td>
<td>1</td>
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<tr>
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<td>Contract</td>
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<td>0.13</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Construction</td>
<td>Contract</td>
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<td>0.38</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
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<td>1</td>
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<tr>
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<td>1</td>
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n = 20,352 contracts

### Table 2: Descriptive Statistics: Variable of Interest

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<th>Category</th>
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<th>Percent</th>
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<td>Extension</td>
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<td>Renewal</td>
<td>645</td>
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<td>Termination</td>
<td>188</td>
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<td><strong>Total</strong></td>
<td>20,352</td>
<td>100.00</td>
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### Table 3: Results: Effects on Contractor Performance

Reference Category: Normal Contract Closeout

<table>
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<tr>
<th>Variable</th>
<th>Extension Relative Risk (z)</th>
<th>Renewal Relative Risk (z)</th>
<th>Termination Relative Risk (z)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive</td>
<td>5.30 (6.91)*</td>
<td>1.11 (0.91)</td>
<td>2.29 (4.44)*</td>
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<tr>
<td>Length (months)</td>
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<td>1.00 (0.66)</td>
<td>1.01 (3.69)*</td>
</tr>
<tr>
<td>Commodity</td>
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<td>2.61 (3.86)*</td>
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</tr>
<tr>
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<td>0.00 (-0.03)</td>
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<td>0.73 (-1.01)</td>
</tr>
<tr>
<td>Training</td>
<td>1.21 (0.68)</td>
<td>0.66 (-1.54)</td>
<td>2.78 (4.17)*</td>
</tr>
<tr>
<td>Construction</td>
<td>1.27 (0.39)</td>
<td>1.41 (1.37)</td>
<td>0.46 (-1.00)</td>
</tr>
<tr>
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<td>0.47 (-1.23)</td>
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<td>0.93 (-0.18)</td>
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<tr>
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<td>0.25 (-1.30)</td>
<td>0.19 (-2.27)*</td>
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</tr>
<tr>
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<td>11.87 (5.11)*</td>
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</tr>
<tr>
<td>Log.Total.Amt</td>
<td>1.18 (4.55)*</td>
<td>1.15 (8.66)*</td>
<td>1.09 (4.08)*</td>
</tr>
<tr>
<td>Intergovernmental</td>
<td>0.94 (-0.18)</td>
<td>0.73 (-2.35)*</td>
<td>0.89 (-0.53)</td>
</tr>
<tr>
<td>Twice.Initial.Spending</td>
<td>6.58 (8.76)*</td>
<td>10.22 (22.41)*</td>
<td>1.43 (1.68)</td>
</tr>
<tr>
<td>Half.Initial.Spending</td>
<td>0.00 (-0.01)</td>
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<td>9.51 (7.93)*</td>
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<td>1.52 (1.33)</td>
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<td>1.39 (1.50)</td>
</tr>
<tr>
<td>Local.Govt</td>
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<td>University</td>
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<td>3.40 (4.42)*</td>
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<td>Justice</td>
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<tr>
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<td>0.12 (-5.17)*</td>
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<td>0.41 (-2.15)*</td>
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<td>Transportation</td>
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<td>0.01 (-4.62)*</td>
</tr>
<tr>
<td>Social.Services</td>
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<td>0.30 (-8.26)*</td>
<td>1.63 (1.47)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.00 (-12.66)*</td>
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<td>0.00 (-14.54)*</td>
</tr>
</tbody>
</table>

* = p<0.05
n = 20,352 contracts
pseudo $r^2 = 0.38$
References


