POLITICAL CONNECTIONS OF THE BOARDS OF DIRECTORS AND DEPARTMENT OF DEFENSE CONTRACTORS' EXCESSIVE PROFITS

Chong Wang*

ABSTRACT. Despite fast-growing interest in research on *political connections*, most papers on this topic belong to the economics or public administration fields. Few studies, if any, look into the role of firms' political connections in the Department of Defense (DoD) acquisition area. This paper attempts to bridge this gap by investigating the impact of political connections on the excessive profitability of DoD contractors. We find that, in contrast to what the "corruption hypothesis" predicts, the excessive profits are less (more) pronounced for those contractors with politically connected (non-connected) boards. Our findings suggest that those politically connected board directors may use their experience to serve a benevolent role to the public in keeping DoD contractors from opportunistic profit-seeking behaviors that could reach or even cross the federal government's regulatory redline.

INTRODUCTION

Political connections[1] of either private-sector firms or public states has increasingly become a popular research topic among economists, business and public administration scholars, and political scientists. For example, in regard to states' political connections as measured by representation in the U.S. Congress, scholars have documented that per capita federal expenditures at the state level are positively related to per capita Senate representation, which gives rise to a small state advantage   (Atlas, Gilligan, Hendershott, and Zupan, 1995). No similar advantage is found if data is restricted to earmarks secured in House appropriations bills[2]

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* *Chong Wang, Ph.D., is Assistant Professor, Graduate School of Business & Public Policy, Naval Postgraduate School. His research interests are in financial and defense-related managerial accounting, corporate finance, and economics.*

(Hoover & Pecorino, 2005; Knight, 2008). This seems to suggest that political connection does matter from a state's perspective.

Naturally, a similar research question exists for private-sector firms; that is, do politically connected private-sector firms derive economic benefits from such a relation? Most studies intended to answer this question somewhat support this conjecture. For instance, Goldman, Rocholl, and So (2009) demonstrate that the market responded positively (i.e., a positive abnormal stock return was observed) to the announcement of the nomination of a board member who was politically connected from his or her prior employment history in the federal government, military services, or as a former representative of the U.S. Congress. Duchin and Sosyura (2012) investigate application data for Troubled Asset Relief Program (TARP) funds and find that those firm applicants with political connections[3] were more likely to be funded. Correia (2012) finds that for firms with irregular accounting practices, those with political connections were less likely to become the target of Securities and Exchange Commission (SEC) investigation, and if they were indeed investigated, they faced lower penalties on average than non-connected firms. Khwaja and Mian (2005) used corporate lending data from Pakistan banks to show the rent-seeking behavior of politically connected firms. In particular, they find that "political firms borrow 45 percent more and have 50 percent higher default rates. Such preferential treatment occurs exclusively in government banks—private banks provide no political favors" (p. 1371). It is also worth mentioning that these studies not only document the real impacts of political connections, but they also share a common theme suggesting that political connections are a source of corruption and underlie various rent-seeking behaviors. Simply put, political connections matter in a negative way.

Despite the fast-growing interest in the research of political connections, most of the papers belong to the economics, political science, or public administration field. There are few studies, if any, that look into the role of firms' political connection in the DoD acquisition area, which provides another proof of the alleged disciplinary disconnect[4] that has existed for a long time.

The objective of this paper is twofold. First, we attempt to bridge the gap that exists between the study of DoD acquisition and other relevant research fields, such as economics and public

administration. As observed by many academicians and practitioners, such a disengagement of DoD acquisition research (with other fields) is sub-optimal. Society will be better served if such disconnect is mitigated. Toward this goal, we build on the extant literature and aim to investigate the impact of political connections (an established concept in non-defense research) on a very important topic in DoD acquisition, that is, the excessive profitability of DoD contractors. Specifically, Wang and San Miguel (2012) document that DoD contractors earned excessive profits relative to their industry counterparts. This study extends Wang and San Miguel (2012) and examines whether DoD contractors' political connections (as measured by the prior employment histories of the board directors) influence contractors' excessive profitability.

Our second goal is to test the "corruption hypothesis of political connections" that has been suggested by existing literature in a very particular and essential setting, that is, the nation's biggest DoD contractors' excessive profitability. If the results support the corruption story, then political connections would become a very serious concern of policy-makers because DoD spending is a substantive portion of government expenditures. On the other hand, if such a conjecture is not grounded, what are the findings, and what is the explanation?

Since the empirical analysis framework of this paper is largely built upon Wang and San Miguel (2012), it is very important to highlight the difference between the two papers, and moreover, how this research incrementally contributes to the literature. While it is true that the samples, as well as the empirical constructs of excessive profits, are almost identical for the two papers, the focus of the research questions are nevertheless different. Wang and San Miguel (2012) primarily investigate whether DoD contractors earned excessive profits relative to their counterparts, given the lack of consensus among academicians. Therefore, the first-order attention in Wang and San Miguel (2012) was a "yes" or "no" question. Given that the answer was positive, Wang and San Miguel (2012) extended their paper by documenting the roles of post-1992 industry consolidation and corporate governance quality on the magnitudes of excessive profits, yet this part is of secondary importance.

In contrast to Wang and San Miguel (2012), this paper takes the empirical finding of DoD contractors' excessive profits as a given and

examines whether DoD contractors' political connections affect their excessive profits. A completely new potential determinant is proposed for investigation. To the extent that the concept of "political connections" is a relatively well-developed notion in economics/finance/accounting literature, while almost no such application is found in the DoD acquisition field, this research makes unique contribution to bridge the disconnect across various fields.

The remainder of the paper is organized as follows. Section 2 describes our sample. Section 3 introduces the measure of political connections, followed by the development of hypotheses on the relationship between excessive profitability and political connections, based on extant literature and observations. Empirical results and findings are in Section 4. Section 5 concludes.

SAMPLE

We start with the same sample used in Wang and San Miguel (2012). Specifically, they use fedspending.org as the data source to identify the top 500 recipients of DoD contracts for 2008. Out of these top 500 firms, 112 are traded on public stock exchanges. These 112 public firms became the main sample of their analyses. Our sample is a reduced version of Wang and San Miguel (2012) in that we delete 16 firms that are missing from the Corporate Library database, which we use to identify the political connections of each firm's board members. Table A.1 in the Appendix A lists the name, dollar awarded, stock ticker, SIC code, and public stock exchange code for these 96 public firms.[5]

Table A1 shows that most of the firms in our sample are listed on the NYSE or NASDAQ, indicating that big DoD contractors are likely to be established companies. For each of the 96 firms, we use their stock ticker to map into the Compustat database and extract various accounting variables across a three-year range of 2007–2009. Note that our base year is 2008. The reason we include two additional years of data (i.e., 2007, one year prior, and 2009, one year after) is to expand the sample size and simultaneously ensure that the status of the top 500 DoD contractors in 2008, as well as the political connections of the board members in 2008, can be assumed to be stationary and be passed onto 2007 and 2009 for the same firm, due to a short elapse of time. Expanding our sample to a three-year range yields a total of 276 firm-years, with 93 each for 2007 and 2009 and

90 for 2008. Following Wang and San Miguel (2012), we denote the excessive profit of a particular firm-year as the difference between this firm-year's return on assets (ROA)[6] and the ROA of an "industry-year-size" matched benchmark firm that is not on the 112-firm list.[7]

Table 1 presents basic statistics of descriptive accounting measures for the 90 sample firms in Fiscal Year 2008.[8] In particular, we report total assets, total sales (revenue), dollar awarded as percentage of revenue, and excessive profit as measured by the matched ROA. The mean values of total assets and total revenue were $35 billion and $33 billion, respectively. The government contracts contributed about 19% of these firms' 2008 revenue on average. Overall, these firms earned an excessive ROA of 3%, which is statistically significant at a 5% significance level, confirming Wang and San Miguel's (2012) findings that top defense contractors received excessive profits relative to their industry peers.

A legitimate concern here is that a significant portion of our sample firms may have a much lower-than-19% of their total revenue that is attributable to DoD contracts, and hence, are not really "defense contractors" as the term is generally understood. Consequently, if Sara Lee had only 1% of 2008 sales from DoD contracts, one cannot attribute much, if any, of Sara Lee's excessive profits to their DoD contracts. We provide a few arguments to address the aforementioned concern. First, our sample focuses on DoD contractors, a much broader concept than a few prominent major weapon manufacturers. In that regard, an average 19% revenue from

TABLE 1
The Basic Statistics of 90 Sample Firms in Year 2008

	Mean	Median	Min	Max	Std Dev
Total Assets (millions)	34,962	7,242	147	797,769	94,895
Total Sales (millions)	32,656	12,542	160	425,071	59,570
Dollar awarded as percent of sales (%)	18.76	6.29	0.04	102.58	24.40
Excessive ROA	0.03	0.02	-0.18	0.32	0.10

DoD is a reasonably decent number. Second, the central metric of our analysis is the excessive profit, and because profit is only a small portion of revenue, a relatively small percentage of DoD revenue could have a much larger impact on profit if firms do derive larger profits from DoD contracts than they can generate from their non-DoD business. Third, it is worth mentioning that the specific concern as expressed by using the Sara Lee example above is already addressed, if not completely removed, by our definition of the three-way industry-year-size matched excessive profit measure. In particular, if Sara Lee had a very good year for whatever reason that is non-DoD related, we expect that its benchmark firm, that is, the firm that is in the same industry and has similar size (but without federal contracts), would also be impacted in a similar way and likewise display a superior profit in the same year. Hence, the excessive profit of Sara Lee, which is the difference between Sara Lee's profit and its benchmark firm's profit, would be only attributable to the fact that Sara Lee has DoD contracts while its benchmark firm has not. Last but not least, despite our belief that our current full-sample approach is sound, we nevertheless proceed to perform a robustness analysis which includes only the subsample that consists of only those firms with at least 25% of total revenue generated from DoD contracts. Tabulated results (presented later in the paper) show that all our findings remain intact.

MEASURING POLITICAL CONNECTIONS & HYPOTHESES DEVELOPMENT

Measuring Political Connections

There is no unanimously agreed-upon definition of the term *political connection*.[9] Scholars have used various forms of concepts in different research settings. For example, Mara Faccio, in a series of her solo and coauthored papers,[10] defines a firm's political connection as follows:

> A company is defined as being connected with a politician if at least one of its largest shareholders (anyone controlling at least 10 percent of voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister, or is closely related to a top politician or party (Faccio, 2006, p. 369).

This definition by Faccio is not appropriate for any U.S.-based study because U.S. regulations effectively rule out the possibility of anybody simultaneously serving a high-rank public service role and a top executive role in a private-sector firm. In the United States, if a present executive of a private-sector firm is appointed as a high-rank government official, he or she must quit his or her current job. As a testimony of this fact, Faccio (2010) finds that under her definition, only 13 out of the 6,007 U.S. firms in the Worldscope database could be labeled as "politically connected firms." In short, this first definition applies more internationally, to countries such as Indonesia, Malaysia, or Italy.

The second definition of *political connection* focuses on campaign contributions and lobbying activities. For instance, Correia (2012) finds that firms' political connections established by contributions to congressmen and by lobbying the SEC reduce those firms' enforcement costs by the SEC. Specifically, those firms were less likely to be investigated by the SEC, and even if they were investigated, the average penalty was lower for them. Other studies that adopted this definition include Roberts (1990), Kroszner and Stratmann (1998), and Ang and Boyer (2000). The problem with this definition is the low explanatory power. For instance, Goldman et al. (2009) find that controlling industry effect significantly reduced the explanatory power of campaign donation. Moreover, Jayachandran (2006) questions the causal effect of firms' donations on firm value. To recap, the second definition, based on campaign donation or lobbying expenditure, at most provides a noisy measure of political connection.

The third alternative definition of *political connection* is derived from board directors' prior employment history in the federal government, including in the legislative, executive, and judiciary branches, and in the military services. Since in the U.S., congressmen, government executives, and military generals are allowed to serve on the boards of private-sector firms after their retirement from public service (and they frequently do so), firms' political connections through board members receive substantial attention. Many U.S.-based studies follow the suit of this particular definition. To name a few, Agrawal and Knoeber (2001) find that firms for which politics plays a more important role tend to be more "politically connected" (i.e., they tend to have more politically

experienced directors on their boards). Goldman et al. (2009) show the market value relevance of the addition of a newly appointed, politically connected board member. Moreover, they differentiate between political connections to the Republican versus Democratic parties and provide evidence that the market values of these two different types of politically connected firms responded differently to George W. Bush's 2000 presidential win.

Since our sample is strictly U.S. -based, it is natural to follow the third definition of *political connection*. Specifically, we use the 2008 Directorships database that is provided by Corporate Library LLC. In this annual directorship dataset, Corporate Library records each individual director's information through compiling data from firms' publicly disclosed proxy statements. One key field in this database is a director's biography, including detailed employment history. We use a series of keywords to search each individual director's biography statement and identify whether this particular director is politically connected. The keywords we use are comprehensive to ensure a maximum catch of politically connected directors. The complete list of our search keywords is as follows: *senator, congressman, congresswoman, congress, representative, federal, secretary, admiral, general, army, navy, air force, department of defense, DoD, commissioner, ambassador, administrator, attorney general, governor, director, council.*

We apply this keyword search to the biography statement as of Year 2008 for each director who sits on the board of any of our 96 sample firms. Once we find a "hit" of a keyword, we read the biography and make sure this particular director is correctly flagged as one who is politically connected.[11] At Year 2008, our 96 sample firms have 989 directors in total, indicating an average board size of 10.3 directors. Out of these 989 directors, 923 are unique individuals, of which 157 are identified as politically connected directors. Put simply, 17% of the directors have prior employment history with the federal government or military services. The data also indicates that 77 out of 96 firms have at least one politically connected director on their board; that is, 80% of our DoD contractors have some degree of political connection through the board of directors. To get a benchmark sense, it is worth mentioning that Goldman et al. (2009), using a definition of *political connection* very similar to our study, document that at Year 2000, 153 of the S&P

500 companies (i.e., 31%) had at least one board member with a political connection. Therefore, the main message is that DoD contractors are much more likely to have a politically connected board than non-contractor firms.

Hypotheses Development

In this section, we derive alternative hypotheses on the relationship between defense contractors' excessive profitability and their political connections, based on extant literature and observations. Most of the prior literature suggests the "corruption" role of political connection (i.e., the firms with political connections opportunistically take advantage of this favorable relation and inappropriately derive private benefits for the firm at the sacrifice of social welfare). For example, Duchin and Sosyura (2012) find that politically connected firms were more likely to get TARP funds, yet their performance was inferior to that of unconnected firms. This clearly indicates that political connection is a source of "corruption" and "inefficiency." Correia (2012) presents evidence showing that firms use their political influence to avoid the scrutiny of the SEC or mitigate the punitive damage in the case of financial reporting irregularity. Faccio et al. (2006) analyze a unique dataset that covers 35 countries during 1997–2002 and find that those politically connected firms were far more likely to be bailed out during financial distress than non-connected firms in a similar economic crisis. Moreover, after bailout, those firms with political connections significantly underperformed unconnected firms. Chaney et al. (2011) document that politically connected firms had poorer earnings quality than their non-connected counterparts. All of the studies mentioned previously collectively convey a consistent message: political connection is associated with various rent-seeking behaviors.

While this corruption hypothesis sounds like a reasonable conjecture given all evidence in the extant literature, a competing hypothesis nevertheless could exist. In particular, if DoD contractors, a unique subset of universal firms, have different and non-opportunistic motives for establishing political connections, then the story could be very different. Given the unique nature of the DoD procurement business, it is quite likely that commonality may not prevail here. For instance, one distinctive feature of defense-related business is the complexity of regulation. The Federal Acquisition Regulation (FAR) alone consists of thousands of pages full of

government-specific terminologies. Further, a firm that is doing business with the DoD is under the scrutiny of various government agencies, such as the Government Accountability Office (GAO), the Defense Contract Audit Agency (DCAA), and others. There is a high cost of non-compliance. A DoD contractor that is found to engage in misconduct could face various penalties including settlement with fine, civil or criminal investigation, suspension, or even debarment. If DoD contractors believe that these redlines are costly to cross, they may have incentives to hire the best talent with professional and institutional knowledge to help them avoid such behavior. For example, a March 22, 1991, article in *The Wall Street Journal,* titled "Northrop Nominates Three for Its Board," reported that

> The nominees are Joseph A. Califano Jr., 59 years old, a Washington attorney and former Secretary of Health, Education and Welfare under President Jimmy Carter; Jack Edwards, 62, a Washington lawyer and formerly the ranking Republican congressman on the Defense Appropriations Subcommittee; and retired Gen. John T. Chain Jr., 56, a 35-year Air Force veteran who this year retired as commander-in-chief of the Strategic Air Command to become executive vice president of operations of Burlington Northern Railroad Co.

A company spokesman said in the news announcement, "[These] board members are chosen for the breadth of their experience and counsel" ("Northrop Nominates," 1991). Moreover, Kent Kresa, then Northrop president and chief executive officer, further commented, "These men bring to Northrop unsurpassed experience and knowledge in their own fields, and a diversity that will serve us well as we shape the company to match the changes taking place in the country and the world" ("Northrop Nominates," 1991). Note that two of the individuals are attorneys, and all three of them had extensive and high-profile government or military experiences. Their expertise and experience, if used under good intention, would greatly help Northrop comply with the regulatory and executive rules. Recognizing this potential competing theory, we are not sure about the direction of the impact of political connections on excessive profits. Hence, we make a two-tailed alternative hypothesis along with a null hypothesis that assumes no effect, as follows:

HO: There is no difference in excessive profitability between connected and non-connected DoD contractors.

H1 There is a difference in excessive profitability between connected and non-connected DoD contractors.

Note that H1 (alternative hypothesis) is a two-tailed test in that no direction of the relationship is predicted. Conditional on the rejection of the null H0, the corruption hypothesis (non-opportunistic motive hypothesis) is supported if excessive profits are more (less) pronounced for connected contractors.

EMPIRICAL RESULTS, FINDINGS AND DISCUSSIONS

Univariate Analysis

We first report the univariate statistics of key variables. Recall from Section 2 that we have 276 firm-years in a three-year range of 2007–2009. We classify each of these 276 firm-years into one of two mutually exclusive groups. The first group, labeled as "non-politically connected" firms, consists of all firm-years for which none of this firm's Year-2008 board members had political connection through his or her prior employment. All of the other firm-years that are not in the first group had at least one of the firm's board members classified as a "politically connected director" and hence belong to the second group called "politically connected" firms. Out of the 276 firm-years, 54 are politically non-connected, and 222 are connected.

TABLE 2
The Univariate Comparison of Key Variables between Politically Connected and Non-Connected Firm-Years

Group	N	Variable	Mean	Std Dev
Politically non-connected	54	Total Assets (millions)	13,535	23,945
		Total Sales (millions)	22,754	30,769
		Dollar awarded as percent of sales (%)	8.68	11.95
		Excessive ROA	0.04	0.09
Politically connected	222	Total Assets (millions)	41,339	103,331
		Total Sales (millions)	33,060	56,377
		Dollar awarded as percent of sales (%)	22.35	28.57
		Excessive ROA	0.01	0.08

We have several immediate observations from Table 2. First, politically connected DoD contracting firms are much bigger than non-connected ones. Measured by assets (revenue), a typical politically connected firm is three (one-and-a-half) times as big as a typical non-connected firm. Second, DoD contracts account for a much bigger portion of total revenue for politically connected contractors than for non-connected ones. Specifically, about 22.35% (as opposed to 8.68%) of total revenue is generated by DoD contracts for politically connected firms (as opposed to non-connected firms). This particular evidence is consistent with Agrawal and Knoeber (2001), who find that for those firms in which sales to government plays a more important role, the presence of politically connected directors on the board is greater as well. It is also in line with the finding of Goldman, Rocholl, and So (2013) that political connections affect the allocation of procurement contracts. Nevertheless, we would like to stress that just because there is a positive association between the political connection and the DoD contract dollar as a percentage of revenue does not necessarily indicate a rent-seeking or corruption story. It is plausible that the hiring of political experience is well intentioned and that those valuable experiences are legitimately used to compete for government contracts in a lawful and ethical way. Last but not least, a univariate comparison on excessive profits (as measured by excessive ROA) between politically connected and non-connected groups demonstrates that the former displays a much less pronounced excessive profit than the latter (1% versus 4%). This suggests that preliminary evidence casts doubt on the corruption (or rent-seeking) hypothesis and favors non-opportunistic motive hypothesis. That said, a more sophisticated approach (beyond univariate analysis) is needed to provide more convincing evidence.

Multivariate Analysis

In this section, we use a multivariate regression method to examine whether the evidence against the corruption hypothesis in a univariate context persists in a multivariate setting. Put another way, we want to inspect whether our preliminary finding based on a univariate relation is robust to controlling known determinants of DoD contractors' excessive profits. Needless to say, our dependent variable (i.e., the left-hand-side variable) is the firms' excessive profits, and our main variable of interest on the right-hand side is the firms' political connections. To ensure that the impact of political

connection on excessive profit is incremental to the effects of all the other known determinants of excessive profits, we need to include a set of control variables on the right-hand side of the regression. Wang and San Miguel (2012), a recent work on defense contractors' excessive profits, provided us with a reference for that purpose.

Wang and San Miguel (2012) not only confirm the existence of defense contractors' excessive profits, but they also document two determinants of excessive profitability. In particular, by showing that defense contractors' excessive profits were more pronounced after 1992, they argue that the post-1992 significant industry consolidation improved the bargaining power of the newly combined firms and, in turn, amplified these firms' profitability. This basically indicates that the degree of industry concentration is a key determinant of excessive profit. The second determinant documented by Wang and San Miguel (2012) is the quality of corporate governance, as measured by the duality of the chief executive officer (CEO) and the chairman of the board. The main justification behind this relation is that poorer corporate governance exacerbates firms' rent-seeking behavior that arises from substantial information asymmetry between the government and defense contractors.

In addition to the two determinants from Wang and San Miguel (2012), that is, the degree of industry concentration and the quality of corporate governance, we also include the size of the firm as a third control variable. The main justification is that because size is a "composite" variable that correlates with so many things (for instance, business risk, assets-in-place, growth opportunity, litigation risk, information symmetry, cost of capital, etc.), it is a common practice to include "size" on the right-hand-side because doing so mitigates the "correlated omitted variable" problem, which could damage the statistical inferences of the multivariate regression model.

So, our multivariate regression includes three control variables besides the variable of interest (i.e., political connection). The dependent variable is, of course, the excessive profits as defined by a three-way industry-year-size matched excessive ROA,[12] as elaborated in Wang and San Miguel (2012). The empirical proxies for the three control variables are as follows: We use a logarithm of total revenue as "firm size," the duality of CEO and chairman of the board as a binary measure of "corporate governance," and the percentage of

industry revenue represented by the largest four (or eight) firms within the industry as a gauge of the degree of industry concentration. Like Wang and San Miguel (2012), we extract total revenue from Compustat and assess whether the CEO is also the chairman of the board from firms' proxy statements. Regarding the proxy for the degree of industry concentration, we use the Year-2007 "Concentration Ratios" published by the Census Bureau of the U.S. Department of Commerce.

Moreover, we include dummies for each of the Fama-French 12 industries[13] on the right-hand side. Finally, in addition to using the full sample, we also perform a robustness test by using only those contractors with at least 25% revenue generated from DoD sales. Table 3 reports the regression results.

Table 3 shows that for each of the eight model specifications,[14] excessive profitability decreases with increases of political connections, regardless of whether political connection is measured as a binary indicator variable or as the percentage of politically connected directors on the board. The magnitude of the impact is both statistically and economically significant. Moreover, this result holds after we control other known determinants of excessive profits. The signs of the three control variables are as expected, and the magnitudes of the coefficients of control variables are significant except for the corporate governance proxy. Overall, the multivariate regression results reject the corruption or rent-seeking hypothesis and suggest a non-opportunistic motive of establishing political connections through board directors' prior experience. Table 3 also shows that Fama-French 12-industry membership (i.e., industry dummy) does not have any effect on excessive profitability. This should not be a surprise because of the way we construct our proxy for excessive profits, which is already matched on industry.

Discussions: Make Sense of the Empirical Findings

While some rationales are already provided for the non-opportunistic motive hypothesis in Section 3.2 (Hypotheses Development), more discussion is needed to make sense of the results. A valid concern is why DoD contractors want to hire politically connected directors in the first place if the recruitment of these directors leads to lower profitability. The findings seem counterintuitive because firms are profit centers. We address this

concern as follows. First, excessive profits are unethical because contractors benefit at the expense of taxpayers. Consequently, it is reasonable to expect that, while they do seek to maximize profits, DoD contractors (especially those with established names[15]) certainly do not want to be perceived as exploiters of the system. Moreover, if DoD contractors go too far in pursuing excessive profits, a fraud investigation could be launched and could lead to substantial financial penalty and dire reputational damage. Hence, there is a risk factor that needs to be taken into consideration when a firm decides whether to pursue excessive profits and how far they want to go if they choose to do so. As elaborated earlier in this paper, one unique feature of defense-related business is the complexity of regulation, which often requires substantive professional and inside knowledge to truly understand. Recruitment of politically connected board directors could be an effective way to serve that need and hence ensure compliance. Put another way, politically connected directors may contribute to the firm and its shareholders by reducing the risk exposure for the firm through mitigating excessive profits. That is, political connection is used as a risk management tool.

TABLE 3
Multivariate Regression: The Excessive Profitability and Firms'
Political Connections

Excessive ROA = a+ b*political connection +c*corporate governance + d*firm size+e*industryconcentration + f*dummy_NoDur + g*dummy_Durbl+h*dummy_Manuf + i*dummy_Enrgy + j*dummy_Chems + k*dummy_Buseq + l*dummy_Telcm +m*dummy_Utils+n*dummy_Shops + o*dummy_Hlth*p* dummy_Money				
Independent Variables	Dependent Variables: Industry-Year-Size Matched Excessive ROA			
Panel A: Full-Sample Results				
	Model 1	Model 2	Model 3	Model4
Intercept	0.10***	0.09***	0.08***	0.07***
Political connection measured by dummy	-0.03***	-0.03***		
Political connection measured by the percent of politically connected directors in the board			-0.04**	-0.04**
CEO-Chairman Duality Dummy	0.01	0.01	0.01	0.00

TABLE 3 (Continued)

Independent Variables	Dependent Variables: Industry-Year-Size Matched Excessive ROA			
Firm Size	-0.08**	-0.08**	-0.08**	-0.08**
Industry concentration measured by the percentage of industry revenue represented by the largest four firms	0.10**		0.12**	
Industry concentration measured by the percentage of industry revenue represented by the largest eight firms		0.10**		0.11**
Consumer Non-Durables Industry dummy	-0.00	-0.01	-0.00	-0.01
Consumer Durables Industry Dummy	-0.00	-0.02	-0.00	-0.02
Manufacturing Industry Dummy	-0.01	-0.01	-0.01	-0.02
Energy Industry Dummy	0.00	-0.02	0.00	-0.02
Chemical Industry Dummy	-0.01	-0.01	-0.01	-0.02
Business Equipment Industry Dummy	-0.00	-0.01	-0.00	-0.01
Telecom Industry Dummy	-0.02	-0.02	-0.03	-0.04
Utilities Industry Dummy	0.02	0.01	0.02	0.00
Wholesale and Retail Industry Dummy	-0.01	-0.01	-0.01	-0.01
Healthcare Industry Dummy	-0.01	-0.02	-0.01	-0.02
Financial Industry Dummy	-0.01	-0.01	-0.00	-0.00
Panel B: Sub-Sample Results That Include Only Those Contractors With at Least 25% Revenue Generated from DoD Sales				
	Model 5	Model 6	Model 7	Model 8
Intercept	0.08***	0.08***	0.05**	0.04*
Political connection measured by dummy	-0.04***	-0.04***		
Political connection measured by the percent of politically connected directors in the board			-0.02*	-0.02*
CEO-Chairman Duality Dummy	0.00	-0.00	0.00	0.00
Firm Size	-0.07**	-0.07**	-0.07**	-0.08**
Industry concentration measured by the percentage of industry revenue represented by the largest four firms	0.09**		0.10**	

TABLE 3 (Continued)

Independent Variables	Dependent Variables: Industry-Year-Size Matched Excessive ROA			
Industry concentration measured by the percentage of industry revenue represented by the largest eight firms		0.08**		0.08**
Consumer Durables Industry Dummy	0.02	0.02	0.03	0.03
Manufacturing Industry Dummy	0.02	0.03	0.02	0.03
Business Equipment Industry Dummy	0.03	0.02	0.03	0.03
Wholesale and Retail Industry Dummy	0.04	0.04	0.04	0.04
Healthcare Industry Dummy	0.04	0.03	0.03	0.04

Notes: * indicates 10% significance level, ** indicates 5% significance level, *** indicates 1% significance level. CEO-Chairman dummy takes a value of one if the CEO is also the chairman; firm size is defined as the logarithm of total revenue; and industry concentration is defined as the percentage of industry revenue represented by the largest four or eight companies within the industry. All the Fama-French Industry dummies take a value of one if a firm belongs to this particular industry, and zero otherwise. For a detailed definition of Fama-French 12-industry, please refer to Appendix B.

CONCLUSIONS

Using a slightly reduced sample from the one used by Wang and San Miguel (2012), we investigate the impact of political connections on excessive profits of DoD contractors. We measure political connections by searching the biographies of board directors in the firms' proxy statements. We find that DoD contractors are more likely to have politically connected director(s) on their board; moreover, among DoD contractors, those with a politically connected board tend to have a higher percentage of revenue from DoD contracts than those without political connection. While this evidence may suggest that DoD contractors have stronger incentives to establish political connections through the recruitment of board directors, and those directors may indeed help the firm to compete for government contracts, they do not necessarily support a "rent-seeking" or "corruption" hypothesis. In fact, in testing the "corruption hypothesis"

versus an alternative "non-opportunistic motive hypothesis" in the setting of DoD contractors' excessive profits, we find strong evidence refuting the former and in favor of the latter. This suggests that DoD contractors may hire those politically connected directors and use their experience to serve a benevolent role to the public. For instance, one legitimate use of the political experience is to keep DoD contractors from opportunistic profit-seeking behaviors that could reach or even cross federal government regulatory redlines.

ACKNOWLEDGMENTS

NOTES

1. There is no consensus regarding the definition of *political connection*. Definitions vary with specific studies.

2. Note that each state has two senators, regardless of the population of the state. The representation in the U.S. House, however, is based on state population.

3. The definition of political connection in Duchin and Sosyura (2012) takes several forms including lobbying, campaign contributions, and employment history of directors.

4. Such disconnect exists between public administration and military administration (Albano, Snider and Thai, 2012), and more generally, between economics and military-related research (Rogerson, 1994). Rogerson (1994) stated, "Defense procurement is unique among regulated industries in the United States in that economists have played virtually no role in helping shape its regulatory practices and institutions. Perhaps this is due to the barrier to entry created by the need to first learn about procurement practices or to a lingering distaste for military matters among academics. Whatever the reason, this lack of economic input is unfortunate, because many of the regulatory and policy issues in defense procurement involve the types of

incentive issues that economists are very good at analyzing. My own hope is that economists are on their way to colonizing this new policy frontier and that some of the ideas discussed in this article will play a role in shaping policy debates over the next decade" (p. 87).

5. Note that the dollar amounts awarded in 2008 listed in Table A.1 are somewhat different from the figures in Wang and San Miguel (2012). This difference is due to a data update in 2012. According to fedspending.org, "On October 17, 2012, the contracts and assistances database on Fedspending were updated with information updated by the government as of July 17, 2012, covering a period from FY 2000 through part of the third quarter of FY 2012." We calculated the difference between the two versions of data, and on average, the magnitude of change is about 3%. In this version, we re-ran all the analyses using the new data and all the results remain intact.

6. To keep the paper concise, we exclusively use ROA as the profitability metric in this study. Other alternative profit measures yield similar results.

7. "The benchmark firm-year is selected based on a three-dimension match on industry, year and size. Specifically, we go to the same industry-year where industry membership is defined as four-digit SIC codes, and identify the non-defense (i.e., not on our 112-firm list) firm that has the best size match with our defense firm-year. The difference between the profit of the firm-year investigated and the profit of the benchmark firm-year will be the measure of 'excessive profit'" (Wang & San Miguel, 2012, p. 397).

8. We lost six firms for Year 2008 due to missing data from Compustat.

9. From this point on, we restrict our attention on political connections to private-sector firms rather than public states. One example of a public state's political connection was introduced previously.

10. See Faccio (2006), Faccio (2010), Faccio, Masulis, and McConnell (2006), and Chaney, Faccio, and Parsley (2011).

11. An example of a politically connected director's profile is General John M. Shalikashvili, who served as a board director of L-3

Communications Holdings, Inc. at Year 2008. The following excerpt was from the company's proxy statement: "General John M. Shalikashvili, director since August 1998 and member of the Compensation and Nominating/Corporate Governance Committees. General Shalikashvili (U.S. Army—Ret.) is an independent consultant and a Visiting Professor at Stanford University. General Shalikashvili was the senior officer of the United States military and principal military advisor to the President of the United States, the Secretary of Defense and the National Security Council when he served as the thirteenth Chairman of the Joint Chiefs of Staff, Department of Defense, for two terms from 1993 to 1997. Prior to his tenure as Chairman of the Joint Chiefs of Staff, he served as the Commander in Chief of all United States forces in Europe and as NATO's tenth Supreme Allied Commander, Europe (SACEUR). He has also served in a variety of command and staff positions in the continental United States, Alaska, Belgium, Germany, Italy, Korea, Turkey and Vietnam."

12. Where industry is defined as 4-digit SIC code, size is defined as total assets. Alternative definitions yield similar results.

13. Please refer to Appendix B for detailed definition of Fama-French 12 industries. We thank an anonymous reviewer for the idea of inclusion of industry dummies.

14. Note that we have two samples (Panel A versus Panel B), two specifications for political connections (measured by dummy versus percent of politically connected directors in the board), and two specifications for industry concentration (measured by the percent of revenue by the largest four versus the percent of revenue by the largest eight), hence, we have 2x2x2=8 models in Table 3.

15. Note that bigger contractors tend to hire politically-connected directors.

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APPENDIX A

TABLE A.1
Firms in the Main Sample: 96 Public U.S. Firms from the 2008 Top
500 List

Company Name	Contracted_dollars _2008	Stock Ticker	SIC	EXCHG (11=NYSE 12=AMEX 14=NASDAQ)
Lockheed Martin Corp	$29,530,306,693	LMT	3760	11
Boeing Co.	$21,965,707,159	BA	3721	11
Northrop Grumman Corp.	$19,797,969,202	NOC	3812	11
General Dynamics Corp.	$15,297,628,164	GD	3790	11
Raytheon Co.	$14,622,785,786	RTN	3812	11
United Technologies Corp.	$8,305,756,260	UTX	3720	11
L-3 Communications Holdings	$6,874,929,413	LLL	3663	11
KBR Inc.	$6,000,207,240	KBR	1623	11
Navistar International Corporation	$4,777,846,899	NAV	3711	11
Science Applications Intl Corp	$4,390,615,390	SAI	7373	11
ITT Corporation	$4,328,687,941	ITT	3812	11
General Electric Company	$3,543,550,138	GE	9997	11
Computer Sciences Corp.	$3,184,888,837	CSC	7370	11
Humana, Inc.	$2,959,870,967	HUM	6324	11
Textron, Inc.	$2,816,825,522	TXT	3721	11
URS Corp.	$2,442,218,418	URS	8711	11
Health Net, Inc	$2,438,342,942	HNT	6324	11
Hewlett-Packard Co.	$1,920,962,663	HPQ	3570	11
Harris Corp.	$1,895,130,938	HRS	3663	11
Oshkosh Truck Corp.	$1,864,493,151	OSK	3711	11
Alliant Techsystems, Inc.	$1,799,021,558	ATK	3480	11
Honeywell, Inc.	$1,758,702,288	HON	3728	11
Force Protection Industries, Inc.	$1,360,529,095	FRPT	3790	14
CACI International Inc.	$1,286,857,539	CACI	7373	11
Amerisource Bergen Corp	$1,270,816,308	ABC	5122	11
Shaw Group, Inc.	$1,165,508,317	SHAW	8711	11
Jacobs Engineering Group Inc.	$1,138,899,471	JEC	1600	11
Rockwell Collins	$1,110,837,828	COL	3728	11
Valero Energy Corporation	$1,043,869,551	VLO	2911	11
Dell Computer Corporation	$945,084,952	DELL	3571	14
VSE Corp.	$943,120,661	VSEC	8711	14

TABLE A.1 (Continued)

Company Name	Contracted_dollars _2008	Stock Ticker	SIC	EXCHG (11=NYSE 12=AMEX 14=NASDAQ)
Mantech International Corp.	$933,676,954	MANT	7373	14
Mckesson Corporation	$902,629,003	MCK	5122	11
Cardinal Health Inc.	$840,973,876	CAH	5122	11
Exxon Mobil Corp.	$836,548,150	XOM	2911	11
Fluor Corp.	$672,082,320	FLR	1600	11
Flir Systems, Inc.	$532,720,245	FLIR	3812	14
Tetra Tech, Inc.	$516,140,665	TTEK	8711	14
Goodrich Corporation	$507,783,414	GR	3728	11
AECOM Technology Corporation	$499,940,665	ACM	8711	11
IBM Corp.	$494,593,640	IBM	7370	11
Perini Corp.	$436,849,919	TPC	1540	11
Ceradyne Inc.	$417,761,224	CRDN	3290	14
Accenture	$373,500,767	ACN	8742	11
At&T Inc.	$372,362,459	T	4813	11
Owens & Minor Inc	$365,861,498	OMI	5047	11
Cubic Corp.	$362,066,652	CUB	3812	11
Kraft Foods Inc.	$347,749,864	KFT	2000	11
SRA International, Inc.	$343,308,240	SRX	7370	11
AAR Corp.	$340,480,196	AIR	5080	11
Great Lakes Dredge & Dock Corporation	$338,434,857	GLDD	1600	14
Caterpillar, Inc.	$323,419,053	CAT	3531	11
Procter & Gamble Co.	$321,983,149	PG	2840	11
Tyson Foods Inc.	$319,486,334	TSN	2011	11
Granite Construction Co.	$293,210,201	GVA	1600	11
Verizon Communications	$291,033,879	VZ	4812	11
Pepsico Inc.	$240,580,112	PEP	2080	11
Tesoro Hawaii Corporation	$239,649,831	TSO	2911	11
Express Scripts	$215,803,048	ESRX	6411	14
Comtech Telecommunications Corp.	$208,845,742	CMTL	3663	14
Conocophillips	$206,348,789	COP	2911	11
General Mills, Inc.	$200,017,932	GIS	2040	11
Aerovironment Inc.	$192,462,098	AVAV	3721	14
Refinery Holding Company L P	$190,993,934	WNR	2911	11

TABLE A.1 (Continued)

Company Name	Contracted_dollars _2008	Stock Ticker	SIC	EXCHG (11=NYSE 12=AMEX 14=NASDAQ)
Sysco Corporation	$171,899,789	SYY	5140	11
Deere & Co.	$161,096,508	DE	3523	11
Unilever Nv	$157,666,699	UL	2000	11
Viasat, Inc.	$156,837,832	VSAT	3663	14
Orbital Sciences Corp.	$151,629,861	ORB	3760	11
World Fuel Service Corp.	$151,312,026	INT	5172	11
UNISYS	$147,954,486	UIS	7373	11
Ball Corp.	$130,409,967	BLL	3411	11
Moog, Inc.	$127,562,435	MOG.A	3728	11
Conagra, Inc.	$125,195,989	CAG	2000	11
General Motors Corp.	$120,929,817	GM	3711	11
Eaton Corp.	$117,654,801	ETN	3620	11
ChevronTexaco Corporation	$114,767,883	CVX	2911	11
Alon USA L.P.	$111,893,700	ALJ	2911	11
Oracle Corp.	$106,880,931	ORCL	7372	14
Xerox Corp.	$99,746,201	XRX	3577	11
Campbell Soup Co.	$88,645,010	CPB	2030	11
Esterline Technologies Corp.	$86,710,373	ESL	3823	11
Intermec Corporation	$86,052,304	IN	3577	11
CAE Corp.	$80,660,703	CAE	3690	11
Integral Systems, Inc.	$79,936,555	ISYS	7373	14
Del Monte Foods Company	$77,962,809	DLM	2000	11
Sara Lee Corporation	$71,852,850	SLE	2000	11
Kimberly-Clark Corp.	$70,117,299	KMB	2621	11
American Science and Engrg	$70,093,409	ASEI	3844	14
Mine Safety Appliances Co.	$66,663,936	MSA	3842	11
Williams Companies Inc.	$65,024,852	WMB	4922	11
Horizon Lines LLC	$65,008,856	HRZ	4400	11
Johnson Controls, Inc.	$52,717,401	JCI	2531	11
Michael Baker Corp.	$49,774,163	BKR	8711	12
Tyco International Ltd	$42,831,522	TYC	9997	11
Johnson & Johnson	$37,047,388	JNJ	2834	11
Coca-Cola Enterprises Inc.	$31,047,725	CCE	2086	11

APPENDIX B
Definition of Fama-French 12-Industry Based on 4-Digit SIC

1. NoDur: Consumer Non-Durables—Food, Tobacco, Textiles, Apparel, Leather, Toys
   0100-0999
   2000-2399
   2700-2749
   2770-2799
   3100-3199
   3940-3989

2. Durbl: Consumer Durables—Cars, TVs, Furniture, Household Appliances
   2500-2519
   2590-2599
   3630-3659
   3710-3711
   3714-3714
   3716-3716
   3750-3751
   3792-3792
   3900-3939
   3990-3999

3. Manuf: Manufacturing—Machinery, Trucks, Planes, Off Furn, Paper, Com Printing
   2520-2589
   2600-2699
   2750-2769
   3000-3099
   3200-3569
   3580-3629
   3700-3709
   3712-3713
   3715-3715
   3717-3749
   3752-3791
   3793-3799
   3830-3839
   3860-3899

APPENDIX B (Continued)

4. Enrgy: Oil, Gas, and Coal Extraction and Products
   1200-1399
   2900-2999

5. Chems: Chemicals and Allied Products
   2800-2829
   2840-2899

6. BusEq: Business Equipment—Computers, Software, and
   Electronic Equipment
   3570-3579
   3660-3692
   3694-3699
   3810-3829
   7370-7379

7. Telcm: Telephone and Television Transmission
   4800-4899

8. Utils: Utilities
   4900-4949

9. Shops: Wholesale, Retail, and Some Services (Laundries, Repair
   Shops)
   5000-5999
   7200-7299
   7600-7699

10. Hlth Healthcare, Medical Equipment, and Drugs
    2830-2839
    3693-3693
    3840-3859
    8000-8099

11. Money: Finance
    6000-6999