Mini West Virginias:
Corporations as Government Dependents*

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ABSTRACT

Much like states that rely on government spending, certain firms rely on the government for a substantial share of their revenues. Exploiting the statutory requirement that forces firms to list the identities of their major customers, we identify and examine the set of firms whose major customers are listed as government entities. We employ an identification strategy that exploits government contract bid protests in order to identify the causal impact of government sales on future firm outcomes, and find that government-linked firms invest less in physical and intellectual capital, and have lower future sales growth.

JEL Classification: E13, E62, G31

Key words: Government spending, customers, investment, R&D.

At the height of his power, Robert Byrd (9-term senator) allocated huge sums to his home-state of West Virginia. Anecdotes abound regarding the generations of West Virginians who lived completely through this government funding. Perhaps these anecdotes even understated the magnitude of government spending in West Virginia, as government spending had grown to 56.6% of state GDP in 2010. States and families are not the only entities that specialize in the procurement and continuation of flows of dollars from the government. We show in this paper that firms also engage in this activity, to the detriment of their long-term value. In particular, there are firms in the economy whose existence is nearly entirely dependent on winning, and keeping, government sales. We find that these firms, which we dub "government dependents," exhibit a number of distinct characteristics, and behave differently on a forward-looking basis after becoming government dependents, relative to otherwise identical firms.

We exploit a statutory reporting standard that requires firms to make publicly available information regarding customer-supplier links in their financial statements. Specifically, Regulation SFAS No. 131 requires firms to report the identity of customers representing more than 10% of the total sales in interim financial reports issued to shareholders. Using this data from financial statements, we find a surprisingly large number of firms with dependence-links to the government. For instance, over our 35-year sample period (1977-2011), over 7% of publicly traded firms rely on the government for over 10% of their sales in each given year. Their average dependence is large, with linked-firms relying on the government for over 23% of their mean total sales. This masks the fact that a number of firms are in fact much more dependent - for instance Delta Tucker

Holdings, Inc. received 96% of their sales revenue from the government, while McDonnell Douglas Corp., Raytheon Co., and PacifiCare Health Systems all received over 50% of their sales from the government.

Using this data we are then able to explore how the incentives, and resultant behavior and investment patterns, might differ in these government-dependent firms. First, we find that government dependents spend considerably less on investment in upgrading physical and intellectual capital than otherwise identical firms in the same industry. For instance, their investment in new capital is 5% (t=3.84) lower, and investment in intellectual capital through R&D is 6% (t=2.03) lower, than peer firms in the same industry. These firms also grow significantly slower than other firms in their industries – with sales growth around 13% (t=6.26) lower than industry peers.

The differences we document are not simply a function of firms more generally that rely on a single major customer for a large percentage (over 10%) of their sales. We collect data on all firms that report relying on a major *private-sector* customer and test the same behaviors. These firms that compete for, and win, large private-sector clients (clients such as: Walmart, Apple, Microsoft, etc.) in fact appear more competitive than their industry counterparts. These private-sector suppliers have significantly higher sales growth (15% higher (t=8.45)), and invest significantly more in physical and intellectual capital.

The difficulty with identifying the impacts of being a government customer on firm actions and outcomes is that the decision to become a government customer is a two-sided matching problem. This means, of course, that both the government has to choose the firm as a supplier and the firm in

question has to choose the government as a customer – this induces a selection problem of observed firms into the role (and continued service) as government dependents. In other words, it might be that certain firms select into their role as government dependents, and all of the empirical facts we document are simply a function of those firms' types, and not of the fact that they are government dependents. We address this selection concern in two ways. First, we hand-collect data on bid protests made by firms that attempt to become (select into) government dependents, but barely lose out to a winning firm. These firms are able to publicly protest the outcome, and we are then able to observe the winner and loser of the government's sales contract. This identification now controls for selection of firm type as *both* firms vying for the government's sales signal their type as one of those attempting to be government dependents. We find that while the "winners" of the contract perform largely in line with the results we find for all government dependents (i.e., lower capex, R&D, and lower sales growth), the "losing" firms perform significantly better. Now that the losing firms are subject to market competition, they have significantly higher investments in physical and intellectual capital, along with higher sales growth, going forward following their losing bid.

The second method we use to identify exogenous changes to government sales exposures is through the exogenous changes in powerful committee chairman in the US Senate. While this does not address the selection of firms to become government dependents, it does represent an exogenous shock to the intensive margin of revenue streaming in from the government to the firm. The committee chairmanship selection process is done nearly entirely through a

seniority structure within controlling party, often occurring in years where the ascending chairman is not even up for election (i.e., the death, retirement, or voting out of the standing chair given staggered voting). Thus, the shock to the ascending chair's state is plausibly exogenous with respect to economic conditions in that state. Given that the literature has shown that this type of shock to power is associated with large shocks to government spending arriving at the ascending chairman's state, we use this exogenous flow of government funds to a given state to test the impact of exogenous shocks to government spending on government dependents' sales revenue. We find a massive impact – in the period following the chairmanship shock to their state government dependents see over a 30% increase in sales revenue from the government, which is highly statistically significant in all specifications ($p<0.01$).

Coupling this with the test above on contested government contract bids, we see evidence that both on the extensive (firm-selection) margin and intensive margin, government dependents appear to be significantly reliant on the government for sales revenue, and tend to behave differently relative to other firms because of this reliance.

In sum, we show evidence that government dependents appear to invest less in both new physical and new intellectual capital and to grow more slowly than peer firms. We provide causal evidence that it is the link to the government that is causing these firms to exhibit these different behaviors. While government contracts may appear to provide benefits to firms in terms of offering a large credit-worthy counterparty, the subtle impacts that this

relationship can have on incentives to compete and innovate may more than offset its advantages.

The remainder of the paper is organized as follows. Section I provides a brief background and literature review. Section II describes the data construction and summary statistics of the sample we use in this paper. Section III presents the main empirical results on government customer firms, and Section IV concludes.

I. Background and Literature Review

Our paper adds to a growing literature exploring the costs and benefits that firms perceive (and receive) from currying favor and/or making connections with the government. In terms of benefits, a variety of papers have documented effects such as increased valuations when connected politicians are in office (Roberts (1990), Fisman (2001), Jayachandran (2006), Faccio (2006), Faccio and Parsley (2006), Fisman et. al (2007), Goldman et. al (2007)), as well as corporate bailouts and government intervention in times of stress (Faccio et. al (2006), Duchin and Sosyura (2009), Tahoun and Van Lent (2010)), not to mention the increased ability to capture lucrative procurement contracts (Goldman et. al (2008)).[1] We add to this literature by exploring the more subtle side of strong government links to corporations, for example the incentive effects on firm behavior, and the extent to which government links affect subsequent growth,

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[1] See also Agrawal and Knoeber (2001) for evidence that outside directors with backgrounds in politics, government, or law are more numerous on the boards of firms for which politics is more important.

investment, and innovation by connected firms. Our paper is unique in that we examine a new channel between firms and the government that has to date been unexplored: the presence of the government as a substantial customer for a firm.

While our focus in this paper is on the micro-level impacts of government links on the behavior of individual publicly traded corporations, our paper is also related to the vast empirical literature analyzing the impact of government actions on the broader economy as a whole. For example, a large literature investigates the impact of government spending on consumption, investment, and output variables. The standard approach in this literature is to apply a VAR methodology to macroeconomic data in order to identify shocks to government spending.[2] Most of these studies focus on quarterly post-war data in the U.S., which places a heavy burden on the econometrics to uncover the relationship from a limited time series of highly persistent variables. Although some studies consider international panel data, variation in economic size and openness, labor market rigidities, and other considerations limit the amount of additional power these data add.[3] The literature has also pursued some alternative strategies to isolate changes in government spending that are exogenous. For instance, several studies focus on periods of significant expansion in US defense spending (the so-called "Ramey-Shapiro episodes") to examine the impact of spending shocks.[4] Because defense spending is viewed to be largely independent of domestic macroeconomic considerations, major changes therein offer opportunities to

[2] See, for example, Rotemberg and Woodford (1992), Blanchard and Perotti (2002), Fatás and Mihov (2001), Mountford and Uhlig (2002), Perotti (2005), Pappa (2005), Caldara and Kamps (2006), and Galí, López-Salido, and Vallés (2007), Ramey (2008).
[3] See Giavazzi and Pagano (1990).
[4] See Ramey and Shapiro (1998), Edelberg, Eichenbaum, and Fisher (1999), Burnside, Eichenbaum, and Fisher (2004), and Cavallo (2005)).

examine exogenous spending shocks. Unfortunately, the occurrence of large and unambiguous shocks to government defense spending is somewhat rare, which restricts the power of these tests.[5]

Our paper is more closely related to a stream of recent papers that examine the state level impacts of government spending on consumption, output, and firm behavior. Many of these papers examine the effects of government spending during specific periods of economic stress and factor underutilization, when the multiplier should be at its largest according to the Keynesian model. For example, Clemens and Miran (2010) use variation across states in balanced budget amendments to estimate the income effects around periods of fiscal stress and spending cuts; Chodorow-Reich, et al. (2010) and Wilson (2011) examine state-level spending effects around the 2009 American Recovery and Reinvestment Act (ARRA); and Fishback and Kachanovskaya (2010) instrument for New Deal spending at the state level using the political competitiveness of different states. Serrato and Wingender (2011) and Shoag (2011) also exploit local variation to identify the impact of government spending; Serrato and Wingender (2011) use county-level Census population count revisions to identify increases in federal, non-discretionary spending, while Shoag (2011) uses idiosyncratic pension returns to instrument for windfall-driven state-level spending. Finally, Cohen, Coval, and Malloy (2011) examine exogenous shocks to state-level federal expenditures over an extended period of time and quantify

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[5] More recently, Nakamura and Steinsson (2011) use differential state-level responses to aggregate military spending fluctuations in order to identify the effects of government spending on output. Cullen and Fishback (2006) also document significant county-level variation in WWII spending increases and use this to examine the impact of government spending on longer-term private sector economic activity.

their impact on the behavior of US public corporations. The advantage of our approach in this paper is that we can finely pinpoint the impact of government links on individual firms, as opposed to employing a coarse state-level shock; this enables us to identify the causal impact of government sales on individual firm behavior.

Lastly, our paper relates to another strand of the literature that examines how political representation translates to government expenditures, which are then allocated to local stakeholders. These studies include Atlas et al. (1995), Hoover and Pecorino (2005), Crain and Tollison (1977, 1981), Goss (1972), Greene and Munley (1980), Kiel and McKenzie (1983), Ray (1980, 1981), Ritt (1976), Rundquist (1978), and Rundquist and Griffiths (1976). Atlas et al. (1995) and Hoover and Pecorino (2005) document a positive relationship between per capita representation in the Senate and state-level federal expenditures but find only limited evidence with respect to House representation. Levitt and Poterba (1999) also find somewhat mixed evidence linking congressional seniority to federal spending; they do, however, find that senior Democratic members of the House were able to use their positions to improve their state's economic performance. Lastly, Aghion et al. (2009) show that representation on appropriations committees has an effect on education expenditures to states, finding support for some of these expenditures translating into future growth.[6] Taken as a whole, the literature finds only modest linkages between the nature of

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[6] Other papers that have used instruments for state-level government spending include Knight (2002 and 2005) who uses transportation committee membership, and Anderson and Tollison (1991) and Gruber and Hungerman (2007), who use the tenure of appropriations committee members.

congressional representation and the distribution of congressional spending. We add to this evidence by uncovering a new link between committee representation (especially on the Armed Forces Committee) and firm sales to the government.

II. Data and Summary Statistics

A. Data Construction

The data in this study are collected and coded from several sources. For the majority of sources, we hand-collect, -code, and -match the data to combine the sources for our analysis. First, we identify firms listing the government as a major customer. Regulation SFAS No. 131 requires firms to report selected information about operating segments in interim financial reports issued to shareholders. In particular, firms are required to disclose certain financial information for any industry segment that comprised more than 10% of consolidated yearly sales, assets or profits, and the identity of any customer representing more than 10% of the total reported sales.[7] Our sample of government-linked firms consist of all firms listed in the CRSP/Compustat database with non missing values of book equity (BE) and market equity (ME) at the fiscal-year end, for which we can identify a major customer as the government.

We extract the identity of the firm's principal customers from the

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[7] Prior to 1997, Regulation SFAS No. 14 governed segment disclosure. SFAS No. 131, issued by the FASB in June 1997, was effective for fiscal years beginning after December 15, 1997.

Compustat segment files.[8] Our customer data cover the period between 1977 and 2011. In these files, there is an explicit coding for government dependents versus private-sector customers; our focus in this paper is on the government dependents. For some ancillary tests, however, we do use the private sector data as well. For these tests, for each firm we determine whether the customer is another company listed on the CRSP/ Compustat tape and we assign it the corresponding CRSP permno number. Prior to 1998, most firms' customers are listed as an abbreviation of the customer name, which may vary across firms or over time. For these firms, we use a phonetic string matching algorithm to generate a list of potential matches to the customer name, and subsequently we hand-match the customer to the corresponding permno number by inspecting the firm's name, segments and industry information.[9] We are deliberately conservative in assigning customer names and firm identifiers to make sure that customer are matched to the appropriate stock returns and financial information. Customers for which we could not identify a unique match are excluded from the sample.

To construct our sample of government contract bid protests, we performed an exhaustive manual search of the WestLaw database. This database contains the case filings of official protests regarding government contracts that were awarded to other firms. For each case, we have the company names involved in the protest, the case number, the type of contract under protest, the date of the protest, and other information about the details of the contract.

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[8] We would like to thank Husayn Shahrur and Jayant Kale for making some of the customer data available to us.

[9] We use a "soundex" algorithm to generate a list of potential matches.

For some of our additional tests, we also use data on congressional committees, as in Cohen, Coval, and Malloy (2011), Stewart and Woon (2009) and Nelson (2005).[10] We link politicians (by state) to firms using the headquarters of all firms listed on Compustat.[11] Congressional committee data is available for the 80th to 110th Congresses (corresponding to the time period 1947-2009), which allows us to match politicians to firms as far back as accurate Compustat accounting information for our firm measures is available (1967). From Compustat, we extract firm-specific accounting variables, such as sales growth, capital expenditures, and research and development (R&D) expenditures.

We define "shocks" to political power by assigning a dummy variable equal to 1 if the Senator of a given state first becomes chairman of an influential congressional committee. The list of the 10 most influential committees is from Edwards and Stewart (2006); for the Senate these committees are Finance, Veterans Affairs, Appropriations, Rules, Armed Services, Foreign Relations, Intelligence, Judiciary, Budget, and Commerce. We categorize shocks into various groups based on the committee rankings; for example, Shock Top1ChairOnly means the Senator was appointed chairman of the top-ranked Senate Finance Committee. We also construct an alternative shock definition that includes both the chairman and the ranking minority member (i.e., the most senior committee member who is a member of the party *not* currently in control of that House of congress), so that Shock Top1Chair&Rank is equal to 1 if a

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Senator becomes either chairman or the ranking minority member of the committee, when he/she was previously not in either position in the prior Congress. We code the seniority shocks as starting in the year of appointment, and apply them for 6 years (term of a senator).

B. Summary Statistics

Table I presents summary statistics for our sample, including measures of firm size, book-to-market ratio, annual sales growth, capital expenditures (scaled by lagged assets), and R&D (also scaled by lagged assets). Panel A shows that firms listing the government as a major customer comprise 7.2 percent of the full sample of firm-years on Compustat over the 1977-2011 time period. Firms protesting the award of a government contract to another firm (the bidding/losing companies in Panel A) represent an additional 1.5 percent of firm-years in the sample. Panel B provides the firm-level characteristics of the subset of firms listing the government as a major customer. Remarkably, the average percentage of sales going to the government for this set of firms is over 23%. This panel also indicates that government-linked firms are a bit larger, similar in book-to-market ratio, and are (unconditionally) associated with lower sales growth, capex, and R&D. In later tests, we verify these patterns more formally in a regression context controlling for other variables, and in tests designed to isolate the causal impact of government sales on firm outcomes.

Table II presents the list for the Top 25 firms reporting the government as a major customer, as ranked by their average annual dollar amount (in thousands) of sales to the government. Also included is the average annual ratio

of government sales to total firm sales for each of these firms. For many of these firms, the average share of sales going to the government is extremely high (approximately 50 percent, or higher), even for some of the larger, more well-known firms (like Humana, Raytheon, etc.).

Table III presents a breakdown of major government customer firms, ranked both by industry (2-Digit SIC Code) and by state of headquarters. Panel A shows that a striking 59 percent of firm-years in the Health Services (SIC code=80) industry are associated with firms featuring large government dependents. Similarly large shares can be seen in the transportation, construction, and social services sectors; defense shows up as well in SIC code 38 under "Instruments and Related Products." Panel B shows, perhaps not surprisingly, that the states of Virginia and Maryland (located closest to the District of Columbia) show the highest shares of firms supplying the government; firms located in the South and West also feature prominently in this list.

III. Empirical Results

A. The Impact of Shocks to Government Sales

Our first preliminary set of tests explores the impact of shocks to local political power on firm-level government sales. The goal of this test is simply to establish a link between exogenous government spending and government "dependency" (i.e., sales to the government), for the set of firms that are reliant on the government. Here the set of firms choosing to be government dependents

is taken as given (we explore the causal impact of government sales on firm outcomes later in the paper), and we simply study how firms' sales to the government are affected by local shocks to political power. We employ state-level Senate "seniority shocks" as described earlier, and test the impact of the random ascension to power of a firm's U.S. Senator to a powerful congressional committee position (either chairman or ranking minority member).

Table IV shows that these shocks to power lead to significant increases in the amount of sales to the government, for the set of firms already reporting the government as a major customer.[12] The magnitude of this effect is large (ranging from a 23% to 35% increase in government sales). Further, the last two rows of Table IV show that orthogonalizing the Top 5 shock (i.e., removing the impact of Top 1 or Top 3 shocks) yields a very large effect, on the order of an 84% increase in government sales after the shock. Interestingly, it turns out that this finding is driven by shocks to the Armed Forces Committee (which is a Top 5 committee, but not a Top 3 committee); specifically, having one's local Senator ascend to the chair of the Armed Forces Committee has a very large impact on sales to the government.

B. The Performance of Firms Reporting the Government as a Major Customer

What are the effects of relying on the government for such a huge share of revenues? In this section we begin to explore the firm-level impact of government dependency. Our goal is to shed light on the incentive effects on

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[12] These results are similar if we include all firms, rather than just firms with non-zero government sales, in these regressions.

firm behavior, and more directly the extent to which government links affect growth, investment, and innovation by connected firms.

We begin by analyzing the impact of having a major government customer on firm-level outcomes. We first run simple panel regressions of a variety of firm-level outcomes, such as sales growth, capital expenditures (scaled by lagged assets), and R&D (again scaled by lagged assets) on an indicator variable for whether or not a firm is a "government customer firm." We run OLS regressions at the firm-year level, and cluster the standard errors at the firm level.

Table V shows that government-linked firms experience significantly lower sales growth, and invest significantly less both in terms of capital expenditures and in terms of R&D. The magnitudes of these effects are substantial, even after including year fixed effects and industry fixed effects. For example, Column 2 of Table V indicates that having a major government customer is associated with 2.8% lower annual sales growth; relative to the sample mean of 21.3%, this implies a 13% relative decrease in sales growth.

C. The Causal Impact of Government Sales on Firms

Next we confront the endogeneity issue present when analyzing firms reporting the government as a major customer. The issue is of course that there may be selection in the set of firms who decide to sell to the government, and this selection may be correlated with the outcome variables we consider. To get around this problem, we need a set of seemingly-identical firms who also "want" to obtain the government as a major customer, but are unable to do so.

It turns out that data does exist for precisely this set of firms, in the form of bid protest filings. These bid protests are formal protests undertaken by firms who also tried to "win" a government contract, but were not selected; the protests are formal grievances filed on behalf of these losing bidder companies. Thus the experiment we have in mind is to examine the impact of winning a major government customer on both the "winners" and the "close losers," in the years immediately following the awarding of the government contract. This identification strategy is similar in spirit to the approach used in Greenstone, Hornbeck, and Moretti (2010), who quantify agglomeration spillovers by estimating the impact of the opening of a large manufacturing plant on the total factor productivity (TFP) of incumbent plants in the same county; they use the location rankings of profit-maximizing firms to compare incumbent plants in the county where the new plant ultimately chose to locate (the "winning county"), with incumbent plants in the runner-up county (the "losing county"). As in their application, where incumbent plants in winning and losing counties have similar trends in TFP in the seven years before the new plant opening, we find similar firm-level trends and characteristics between winning and losing bidders in the years before winning and losing these government contracts.

In Table VI, we examine the performance of these losing bidder firms in the years following their unsuccessful bid. Specifically, we create a firm-level indicator for "losing bidder" and also include a "post-losing bid" variable in the regression that is set equal to 1 in the three years immediately following the

losing bid for these losing bidders, and is set to zero at all other times.[13] We then include these variables along with the control variables included in Table V.

Table VI indicates that the effects captured by the "losing bidder" variable mirror the effects shown for the "government customer" variable described earlier. For example, these losing bidder firms on average experience significantly lower sales growth, and invest significantly less in capital expenditures and R&D; thus these firms appear very similar to the government-linked firms that win the contracts. What happens in the wake of *losing* these government contracts is quite revealing, however. In the three years following a losing bid that they subsequently protest, these losing firms experience significantly *higher* sales growth, and invest significantly *more* in capital expenditures and R&D. These effects are again large in magnitude. For example, the losing bidders invest 1.7% more in R&D in the years following a losing bid; relative to a sample mean of 11%, this implies a 15% relative increase in R&D spending following a lost bid. For capital expenditures, losing bidders invest 1.2% more in the years following their losing bids, which in turn equates to a 14% relative increase in capex spending.

In summary, we find that government dependents experience significantly lower sales growth, and engage in significantly less investment. When we then use bid protests by losing bidders on government contracts as a vehicle to isolate the causal effect of government sales on firm-level outcomes, we find that losing bidders experience the reverse effects immediately following their losing bid: they

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[13] The results are very similar if we use a 5-year post-period window instead.

have significantly higher sales growth, and they invest a statistical and economically higher amount on capex and R&D.

D. The Impact of Private versus Public (Government) Customers

Our last set of tests analyzes the differential impact of having a major government customer versus having a major private-sector customer. As described above, we exploit the same statutory requirement that forces firms to list their major customers, but here we make use of the fact that firms must also report their major private-sector customers in addition to their major government dependents. Including a "private sector customer" dummy into the same regressions from Table V enables us to examine the relative effects of these two types of customers.

Table VII presents the results of these tests. Specifically, it shows that while government-linked firms experience significantly lower sales growth and invest less, firms with major private-sector firms experience the reverse pattern: they have significantly higher sales growth, and tend to invest more. Collectively, these findings coupled with the results in Tables V and VI suggest that supplying to the government may have important incentive externalities for the way these firms operate, since they tend to experience markedly different outcomes and behave in a very dissimilar way to firms that are not tied to the government.

IV. Conclusion

In this paper we show that government customer relationships can lead to large distortions in firm behavior and firm outcomes. We provide evidence consistent with the idea that firms that rely on the government for a large share of their business income become less competitive relative to identical industry peers. These government dependents invest significantly less in new physical and intellectual capital, and grow significantly slower than other firms in the industry. This pattern is not merely a function of being the type of firm that enters into a substantive customer-supplier relationship; for example, firms in identical industries that enter into large customer agreements with private-sector firms contrastingly invest *more* in physical and intellectual capital than industry peers. These firms, exposed to the discipline of a private-market large customer (i.e., Walmart, Apple, General Electric, etc.), also appear to grow significantly more quickly than industry peer firms.

To address the selection concern of government customer firms selecting to link to the government, and thus our results being driven by firm selection (and not the impact of being a government customer), we run two tests. The first is on the extensive margin by examining firms that identically select to be government dependents, but barely miss out, and then protest the contract allocation to the winning firm. While the government-sales "winning" firm performs in line with the full sample of government dependents (i.e., with lower capex, R&D, and growth), the "losing" firm, which subsequently goes on to compete in the private market, has significantly higher investment in capital and

higher sales growth following their losing bid. The second method is on the intensive margin. We show that exogenous shocks to the government funding in a state result in large shocks to the government sales revenue for existing government dependents. Coupling these two results provides evidence that both on the extensive (firm-selection) margin and on the intensive margin, government dependents appear to be reliant on the government for sales revenue, and tend to behave differently from other firms because of this reliance.

Taken as a whole, we provide new evidence that government customer relationships have subtle, yet economically large, impacts on firm behaviors and outcomes. Specifically, government dependents appear to invest less in physical and intellectual capital along with growing more slowly, with these behaviors being caused by the government customer relationship. While firms continue to vie for seemingly lucrative government contract relationships, the message of this paper is that a full accounting of the incentive effects and their impact on long-run competitive and innovative behavior needs to be examined in order to determine the true long-run NPV of the government as an important economy-wide customer.

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Table I: Summary Statistics

This table reports summary statistics for the sample of firms reporting the Government as a major customer in their 10-K filings. The sample period for the main tests is 1977-2011.

Panel A: Full Sample			
Variable	N	Mean	Std Dev
Government Customer	279216	0.071715	0.258016
Bidding (Losing) Company	279216	0.014698	0.120343
LogMarketCap	222631	4.528076	2.430831
LogBooktoMarket	217261	0.492080	0.463900
Sales Growth	266604	0.213165	0.651854
Capex_scaled	265339	0.083382	0.123571
R&D_scaled	126503	0.109730	0.213137

Panel B: Government Customer Firms			
Variable	N	Mean	Std Dev
GovSalesRatio	20024	0.234611	0.561304
LogMarketCap	17107	4.838912	2.305756
LogBookToMarket	16790	0.490564	0.411106
Sales Growth	19952	0.171509	0.464159
Capex_scaled	19883	0.071315	0.085816
R&D_scaled	11447	0.091810	0.158615

Table II: List of Major Government Customer Firms

This table reports summary statistics for the Top 25 firms reporting the Government as a major customer in their 10-K filings, as ranked by their average dollar amount (in thousands) of annual sales to the Government. Also included is the average annual ratio of government sales to total sales for each firm. The sample period for the main tests is 1977-2011.

Obs	Company Name	NumYears	MeanGovSales	MeanGovSalesRatio
1	BOEING CO	31	$ 11,941.20	0.259
2	EXPRESS SCRIPTS HOLDING CO	2	$ 9,265.32	0.203
3	HUMANA INC	13	$ 8,928.30	0.487
4	WELLPOINT INC	11	$ 7,835.86	0.173
5	MCDONNELL DOUGLAS CORP	19	$ 7,507.17	0.639
6	RAYTHEON CO	33	$ 7,463.93	0.509
7	HALLIBURTON CO	3	$ 6,000.00	0.302
8	NORTHROP GRUMMAN CORP	33	$ 5,817.12	0.299
9	DIRECTV	11	$ 5,742.93	0.475
10	SAIC INC	6	$ 5,112.33	0.509
11	GENERAL ELECTRIC CO	31	$ 4,895.85	0.091
12	HERTZ GLOBAL HOLDINGS INC	5	$ 4,026.31	0.508
13	EXELIS INC	1	$ 4,022.00	0.689
14	LOCKHEED MARTIN CORP	24	$ 3,666.17	0.178
15	L-3 COMMUNICATIONS HLDGS INC	14	$ 3,398.75	0.537
16	HCA HOLDINGS INC	18	$ 3,301.10	0.232
17	PACIFICARE HEALTH SYSTEMS	19	$ 3,111.89	0.531
18	DELTA TUCKER HOLDINGS INC	6	$ 2,626.83	0.963
19	NAVISTAR INTERNATIONAL CORP	4	$ 2,625.94	0.200
20	VEOLIA ENVIRONNEMENT	2	$ 2,592.20	0.101
21	UNITED TECHNOLOGIES CORP	33	$ 2,573.54	0.111
22	KBR INC	5	$ 2,564.40	0.246
23	MARTIN MARIETTA CORP	13	$ 2,450.00	0.468
24	GRUMMAN CORP	16	$ 2,406.43	0.840
25	GENERAL DYNAMICS CORP	33	$ 2,310.50	0.247

Table III: List of Major Government Customer Firms by Industry and State

This table reports the top-ranked industries and states in terms of the percentage of firm-year observations that feature firms with major customers listed as the Government. Industries are defined at the 2-digit SIC-code level, and states are defined using the headquarter state for each firm.

RankGC	SICCD	GovCust	Industry Description
Panel A: Government Customer Firms By Industry (2-Digit SIC Codes)
1	80	0.59370	Health Services
2	41	0.42128	Local/Suburban Transit and Interurban Highway Transportation
3	87	0.39365	Engineering, Accounting, Research, Management and Related Services
4	83	0.38725	Social Services
5	16	0.35681	Heavy Construction Other than Building Construction-Contractors
6	37	0.31402	Transportation Equipment
7	49	0.25231	Electric Gas, and Sanitary Services
8	17	0.23387	Construction-Special Trade Contractors
9	38	0.19842	Instruments and Related Products
10	82	0.18659	Educational Services
11	36	0.17804	Electrical and Electronic Equipment Except Computers
12	76	0.15823	Miscellaneous Repair Services
13	7	0.15254	Agricultural Services
14	34	0.12918	Fabricated Metal Products
15	35	0.12049	Industrial and Commerical Machinery and Computer Equipment
16	73	0.11919	Business Services
17	45	0.11795	Transportation by Air
18	25	0.09186	Furniture and Fixtures
19	31	0.09141	Leather and Leather Products
20	44	0.08879	Water Transportation

RankGovCust	GovCustFlag	Abbrev	State Name
Panel B: Government Customer Firms by State
1	0.32577	VA	Virginia
2	0.30992	MD	Maryland
3	0.25566	MT	Montana
4	0.25481	ME	Maine
5	0.22711	KY	Kentucky
6	0.21884	TN	Tennessee
7	0.20300	ID	Idaho
8	0.19542	NH	New Hampshire
9	0.17668	SD	South Dakota
10	0.15951	LA	Louisiana

Table IV: The Impact of Seniority Shocks on Government Sales

This table reports panel regressions of capital expenditures on Senate seniority shocks, for those firms reporting the Government as a major customer. All models contain year-fixed effects. All standard errors are adjusted for clustering at the year level, and t-stats using these clustered standard errors are included in parentheses below the coefficient estimates. ***Significant at 1%; **significant at 5%; *significant at 10%.

	Dependent Variable: Log(Government Sales)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Shock_Top1ChairOnly	0.326***									
	(2.85)									
Shock_Top1Chair&Rank		0.317***								
		(2.86)								
Shock_Top3ChairOnly			0.303***							
			(3.39)							
Shock_Top3Chair&Rank				0.231**						
				(2.66)						
Shock_Top5ChairOnly					0.303***					
					(2.90)					
Shock_Top5Chair&Rank						0.317***				
						(4.01)				
Shock_Top10ChairOnly							0.352***			
							(4.37)			
Shock_Top10Chair&Rank								0.257***		
								(4.21)		
Shock_Top5Chair_Orthog									0.843***	
									(6.35)	
Shock_Top10Chair_Orthog										0.383***
										(4.79)
Fixed Effect	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
Adjusted R^2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
No. of Obs.	16033	16033	16033	16033	16033	16033	16033	16033	16033	16033

Table V: Performance of Government Dependents

This table reports panel regressions of various firm-level outcome measures on a dummy for if the firm is a government customer, and a host of control variables. All models contain year-fixed effects, and (2-digit) industry-fixed effects. All standard errors are adjusted for clustering at the firm level, and t-stats using these clustered standard errors are included in parentheses below the coefficient estimates. ***Significant at 1%; **significant at 5%; *significant at 10%.

	Dependent Variable					
	SalesGrowth	SalesGrowth	Capex	Capex	R&D	R&D
Government Customer	-0.045***	-0.028***	-0.013***	-0.004***	-0.020***	-0.007**
	(10.23)	(6.26)	(11.22)	(3.84)	(5.60)	(2.03)
Firm Size		-0.004***		0.002***		-0.015***
		(5.26)		(8.89)		(24.56)
Firm Book-to-Market		-0.131***		-0.026***		-0.092***
		(25.94)		(27.47)		(23.22)
Fixed Effects		Year, Industry		Year, Industry		Year, Industry
Adjusted R^2	0.00	0.04	0.00	0.22	0.00	0.25
Number of observations	266604	209687	265339	206267	126503	102983

Table VI: Companies Who Bid for Government Contracts and Lose

This table reports panel regressions of various firm-level outcome measures on a dummy for if the firm is a government customer or a losing bidder on a government contract, and a host of control variables. All models contain year-fixed effects, and (2-digit) industry-fixed effects. All standard errors are adjusted for clustering at the firm level, and t-stats using these clustered standard errors are included in parentheses below the coefficient estimates. ***Significant at 1%; **significant at 5%; *significant at 10%.

	Dependent Variable					
	SalesGrowth	SalesGrowth	Capex	Capex	R&D	R&D
Government Customer	-0.041***	-0.026***	-0.013***	-0.004***	-0.017***	-0.006*
	(9.19)	(5.64)	(10.57)	(3.75)	(4.75)	(1.77)
Losing Bidder	-0.094***	-0.062***	-0.015***	-0.003	-0.048***	-0.017***
	(12.81)	(7.18)	(5.68)	(1.20)	(8.65)	(2.95)
Post-Losing Bid	0.050*	0.043*	0.015***	0.012***	0.003	0.017***
	(1.77)	(1.71)	(3.37)	(3.06)	(0.67)	(3.21
Firm Size		-0.004***		0.002***		-0.015***
		(4.64)		(8.85)		(24.05)
Firm Book-to-Market		-0.131***		-0.026***		-0.092***
		(25.90)		(27.46)		(23.21)
Fixed Effects		Year, Industry		Year, Industry		Year, Industry
Adjusted R^2	0.00	0.04	0.00	0.22	0.00	0.25
Number of observations	266604	209687	265339	206267	126503	102983

Table VII: Government Dependents versus Private Sector Customers

This table reports panel regressions of various firm-level outcome measures on a dummy for if the firm is a government customer or a losing bidder on a government contract, and a host of control variables. All models contain year-fixed effects, and (2-digit) industry-fixed effects. All standard errors are adjusted for clustering at the firm level, and t-stats using these clustered standard errors are included in parentheses below the coefficient estimates. ***Significant at 1%; **significant at 5%; *significant at 10%.

	Dependent Variable					
	SalesGrowth	SalesGrowth	Capex	Capex	R&D	R&D
Government Customer	-0.070***	-0.038***	-0.014***	-0.006***	-0.021***	-0.005
	(15.26)	(8.12)	(11.97)	(4.78)	(6.12)	(1.43)
Private Sector Customer	0.070***	0.031***	0.002**	0.003***	0.026***	-0.012
	(19.79)	(8.45)	(1.98)	(3.93)	(11.26)	(5.34)
Firm Size		-0.010***		0.001***		-0.015***
		(12.48)		(6.45)		(23.77)
Firm Book-to-Market		-0.147***		-0.027***		-0.090***
		(26.46)		(27.10)		(22.13)
Fixed Effects		Year, Industry		Year, Industry		Year, Industry
Adjusted R^2	0.00	0.04	0.00	0.22	0.00	0.24
Number of observations	257116	202047	255708	198515	120743	98190