Internal Capital Markets in Conglomerate Firms: Evidence from Presidential Cycles

Darren Kisgen* Lei Kong†

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Abstract

This paper examines the existence and efficiency of internal capital markets in conglomerate firms, by exploiting the turnover of parties in the United States presidencies. First, we show that, following the turnover in presidencies from a Republican to a Democrat, government dependent industries experience more cash flows than non-government dependent industries. We further establish the existence of internal capital markets by showing that, non-government dependent segments invest more when they have companion segments in government dependent industries, following the turnover in presidencies from a Republican to a Democrat. The diversification discount between conglomerate firms and stand-alone firms becomes greater in high government dependence firms, following the turnover in presidencies from a Republican to a Democrat. Furthermore, the exacerbation of diversification discount is mainly concentrated in conglomerate firms that operate in both government dependent and non-government dependent industries, which are more likely to engage in internal capital allocations across presidential party switch. Overall, our results support the dark side view of the internal capital market.

JEL Classification: G31; L22; O38

Keywords: Internal Capital Markets, Diversification Discount, Political Cycles, Investment Efficiency

*Associate Professor, Department of Finance, Fulton 326A, Carroll School of Management, Boston College, Chestnut Hill, MA 02467, Email: kisgen@bc.edu.

†Assistant Professor, Department of Economics, Finance, and Legal Studies, Alston 233, Culverhouse College of Commerce, The University of Alabama, Tuscaloosa, AL 35487, Email: lkong@cba.ua.edu.

1 Introduction

Internal capital markets, through which conglomerate firms direct investment flows, have intrigued financial economists for a long time. The research questions in this regard are mainly two-fold: first, is there an internal capital market within a conglomerate firm; second, if the internal capital market exists, are the internal capital reallocations value-increasing or value-reducing? However, given the challenges (such as the endogeneity and data limitations) in answering the above two questions, neither has a clear-cut answer in the literature.[1] In this paper, we try to answer them by exploiting the political party turnover in the presidencies in the United States as a shock to government dependent industries as opposed to non-government dependent industries.

Research in political economy concludes that political partisanship influences policy outcomes at the national and state levels of government.[2] The political science literature has also shown that party affiliation matters in congressional voting.[3] Moreover, systematic differences have been observed in the stock market across different parties in the presidencies as well.[4] Hence, it is reasonable to expect that government dependent industries (e.g., Guided Missile and Space Vehicle Manufacturing) perform differently than non-government dependent industries (e.g., Carpet and Rug Mills) across different parties in the presidencies.

To construct a measure of industry dependence on government, we make use of data from the U.S. National Income and Product Accounts (NIPA) input-output accounts, which provide

[1] The existence of the internal capital market is less controversial than the efficiency of the internal capital market.

[2] Given the small number of presidential elections, relatively few studies have investigated the policy impact of which party occupies the presidencies. One exception is Snowberg, Wolfers, and Zitzewitz (2007), who find that expectations about which party would control the executive branch of government in the 2004 presidential election impacted market prices and indices. Several studies have established the impact of parties at the state level. Besley and Case (2003) show that a higher fraction of Democrat party seats in the state legislature is associated with higher state spending per capita. Reed (2006) shows that from 1960 to 2000, tax burdens are higher when Democrats control the state legislature compared to when Republicans are in control. See Besley and Case (2003) for a review on this topic.

[3] Lowry and Shipan (2002) show that Congress has become increasingly polarized as the two parties compete for policy change and public support over the last three decades in the 20th century. Snyder and Groseclose (2000) find strong evidence of party influence in roll-call voting in both the House and Senate, in virtually all congresses over the period 1871-1998. Lee, Moretti, and Butler (2004) exploit the random variation associated with close U.S. congressional elections in a regression discontinuity research design to show that party affiliation explains a very large fraction of the variation in Congressional voting behavior, and voters merely elect policies rather than affect candidates' policy choices.

[4] For instance, Santa-Clara and Valkanov (2003) document that the excess return in the stock market is significantly higher under Democratic than Republican presidencies. Belo, Gala, and Li (2013) further document that this difference is mainly concentrated in industries with high dependence on government spending.

the interdependencies between different industries and final uses of each industry's product. This measure is defined as the proportion of each industry's total output that is purchased directly and indirectly by the government sector.[5] Conceptually, this measure captures to what extent the output of an industry is consumed by the government sector. Moreover, it also takes into account the fact that an increase in government purchases of finished goods (such as an airplane) can also have an indirect effect on the industries that supply parts to the airplane industry. Armed with this measure, we first show that, following the turnover in presidencies from a Republican to a Democrat, the cash flows of segments in government dependent industries increase significantly more than those in non-government dependent industries.[6] This confirms the notion that government dependent industries perform differently than non-government dependent industries across different parties in presidencies. Specifically, when the party in presidency is switched from Republican to Democrat, the increase in cash flows of segments in government dependent industries is 1.3 percentage points higher than the increase in non-government dependent industries. Given that the cash flow of a median segment in the sample is 0.15, this 1.3 percentage point increase represents about 9% increase in cash flow for the median segment.

The large magnitude of difference in cash flows between government dependent industries and non-government dependent industries induced by party switch in presidencies allows us to further investigate whether a conglomerate firm actively reallocates funds across its divisions (i.e., the existence of the internal capital market within a conglomerate firm). The above documented cash flow difference provides me a nice difference-in-difference setting to test the existence of the internal capital market. Some conglomerate firms operate in both government dependent and non-government dependent industries, while other conglomerate firms only operate in non-government dependent industries. As suggested in Stein (2003), we compare the investments of non-government dependent segments in conglomerate firms that operate in both government dependent and non-government

[5] Nekarda and Ramey (2011) use a similar measure to investigate the industry-level effects of government purchases. See Section 2 for a detailed description on how to construct the government dependence measure.

[6] Since the sample median of industry dependence on government is 11%, government dependent industries are defined as those with the measure of industry dependence on government larger than 10%. Accordingly, non-government dependent industries are defined as those with the measure of industry dependence on government smaller than 10%. At the segment level, a segment with government dependence measure larger than 10% is government dependent; a segment with government dependence measure smaller than 10% is non-government dependent. Tests are performed using both continuous and dummified meausures in this paper.

dependent industries with the investments of non-government dependent segments in conglomerate firms that operate only in non-government dependent industries.[7] The difference of the above difference across different presidential party affiliations yields the investments in non-government dependent segments that are caused by the increase of cash flows in government dependent segments within the same firm.[8]

One major concern is that the investment prospects of non-government dependent segments in conglomerate firms that operate in both government dependent industries and non-government dependent industries might be different from the investment prospects of non-government dependent segments in conglomerate firms that operate only in non-government dependent industries. To address this issue, we use three different ways: first, we only focus on the non-government dependent segments, which alleviates the concern that the turnover in presidential parties may drive the investment opportunities for government dependent segments; second, the rich dataset allows me to saturate models with *industry*year* fixed effects, thus removing the time-varying confounding factors at the industry level; third, the lagged *firm Q* is included in the regression to control for the firm level differences in investment prospects. Conceptually, this analysis compares the differences in non-government dependent segment investments in the same industry-year for two otherwise similar segments over different parties in presidencies, one with companion segments operating in government dependent industries and the other with companion segments operating only in non-government dependent industries.[9] With this setting, we find that the difference in investments between non-government dependent segments in conglomerate firms that operate in both government dependent and non-government dependent industries and non-government dependent segments in conglomerate firms that operate only in non-government dependent industries is about 0.7 percentage points higher in Democratic presidencies than in Republican presidencies.

[7] Stein (2003) formulates the way to test the existence of internal capital markets as follows: *operationally, this question can be rephrased as: holding fixed B1's investment prospects and cashflow, is it the case that B1's investment is influenced by B2's cashflow?*

[8] For example, there are two conglomerate firms, A and B. Each has two segments. Firm A has a government dependent division AG and a non-government dependent division AN, while firm B has two divisions, BN1 and BN2, neither of which is government dependent. The evidence mentioned in the former paragraph indicates that the cash flow difference between AG and BN1 (or BN2) is significantly larger in Democratic presidencies than the difference in Republican presidencies. The method in this paragraph compares the difference in investments between AN and BN2 (or BN1) across different parties in presidencies.

[9] The companion segments of a segment mean the other segments operating in the same conglomerate firm as the segment in question.

The magnitude is also economically large. The sample median of segment investments is about 0.05, so 0.7 percentage points can be translated to a 14% increase for the median segment.

This approach is similar in spirit to Lamont (1997), who investigates the response of investment in the non-oil segment of oil dependent firms following the large oil price drop between 1985 and 1986. He finds that, compared to the industry median, the investments in the non-oil segments of oil dependent firms fall significantly. In addition, Khanna and Tice (2001) examine capital expenditure decisions of discount firms in response to Wal-Mart's entry into their markets. They find that, after Wal-Mart's entry, diversified firms respond more quickly and their capital expenditures are more sensitive to the productivity of their discount business. However, both studies focus on specific industries (the oil industry in the first case and the retailing industry in the second case), and hence have rather small samples. This paper provides the first large sample evidence for the existence of internal capital markets.[10] Moreover, both studies draw conclusions by comparing the conglomerate firm divisions with the stand-alone firms, which is possibly contaminated by the differences between conglomerate firm divisions and stand-alone firms.[11] This paper mitigates this concern by comparing divisions in different conglomerate firms (rather than comparing divisions with stand-alone firms).

After establishing the existence of the internal capital market, we next investigate the valuation implications of internal capital allocations. Theoretically, there are two competing views in the literature. The bright side view stresses the benefits of internal capital markets, since internal capital markets can alleviate the information asymmetry between division managers and investors.[12] In those models, capital allocation is the result of pooling internally generated cash flows and subsequently distributing funds optimally to units. The allocation is through a winner-picking method, based on each unit's investment prospect. Hence, internal capital markets can add value, since firms allocate more capital to those units with better investment opportunities. The dark side view emphasizes on the potential costs of internal capital markets, since agency problems and

[10] Shin and Stulz (1998) document that the investment by a segment of a diversified firm depends on the cash flow of the firm's other segments with an OLS regression.

[11] For instance, Chevalier (2004) argues that the investment opportunities facing conglomerate divisions are not identical to those of stand-alone firms in their industries.

[12] This view is pioneered by Alchian (1969) and Weston (1970) and later extended by Gertner, Scharfstein, and Stein (1994), Stein (1997), and Maksimovic and Phillips (2002).

power grabbing within conglomerate firms can result in inefficient cross-subsidization.[13] Specifically, segments with more powerful or better connected managers may get more allocations than what they should based on the investment opportunities in their segments. As a result, internal capital markets can destroy value, since capital allocations across different segments are on a basis of rent-seeking.[14]

To test the above two views, we examine the impact of engagement in internal capital allocations on the diversification discount as well as firm valuations. We first show that, the diversification discount between conglomerate firms and stand-alone firms is greater in high government dependence firms than in low government dependent firms, following the turnover in presidencies from a Republican to a Democrat. Moreover, the exacerbation of diversification discount is mainly concentrated in conglomerate firms that operate in both government dependent and non-government dependent industries, which are more likely to engage in internal capital allocations across different parties in presidencies. The results for firm valuations are qualitatively similar. This is consistent with the predictions of Scharfstein and Stein (2000) and Rajan, Servaes, and Zingales (2000), both of which imply that the cross-subsidization is more pronounced when there is a greater diversity of investment opportunities within the firm. Overall, our findings provide support for the dark side view of internal capital markets, i.e., internal capital markets are inefficient in allocating resources and tend to destroy value.

The empirical evidence on the efficiency of the internal capital market is also mixed. On the one hand, a number of papers document the dark side of internal capital markets. Shin and Stulz (1998) find that the sensitivity of a segment's investment to the cash flow of other segments does not depend on whether its investment opportunities are better than those of the firm's other segments. Rajan, Servaes and Zingales (2000) find that the industry-adjusted investment of low-Q divisions within conglomerates is higher than the industry-adjusted investment of high-Q divisions. Gertner, Powers, and Scharfstein (2002) show that firms' investment after spin-off is significantly more sensitive to investment opportunities than it is before the spin-off. Burch and Nanda (2003) find that improvements in aggregate value after spin-off depend significantly on changes in diversity.

[13] This view is modeled in Scharfstein and Stein (2000) and Rajan, Servaes, and Zingales (2000).
[14] See Stein (2003) and Maksimovic and Philips (2013) for a review on both views of this topic.

Xuan (2009) finds that new specialist CEOs use the capital budget as a bridge-building tool to elicit cooperation from powerful managers in previously unaffiliated divisions. Ozbas and Scharfstein (2010) find that unrelated segments exhibit lower Q-sensitivity of investment than stand-alone firms and the differences are more pronounced in conglomerates in which top management has small ownership stakes. Glaser, Lopez-De-Silanes, and Sautner (2013) use a unique panel data set and find that following cash windfalls, more powerful managers obtain larger allocations and increase investment substantially more than their less connected peers. Moreover, the ex post performance and productivity of these investments is lower. Duchin and Sosyura (2013) find that connected division managers tend to receive more capital and the efficiencies of investments depend on the trade-off between agency and information asymmetry.

On the other hand, the literature on the bright side of internal capital markets is also extensive. Khanna and Tice (2001) argue that internal capital markets function well, as transfers are away from the worsening discount divisions following Wal-Mart's entry. Maksimovic and Phillips (2002) find that when a division that has high productivity relative to its industry experiences a positive demand shock, this reduces the growth of other divisions within the same firm. Gopalan and Xie (2011) find that conglomeration enables segments to avoid financial constraints during industry distress. Matvos and Seru (2014) estimate a structural model of internal capital markets to separately identify and quantify the forces driving the reallocation decision. They show that although internal capital markets may be inefficient during normal times, they offset financial market stress during the crisis. Giroud and Mueller (2015) find that when a firm is financially constrained, a positive shock to investment opportunities (new direct flight between the headquarter and the plant) at one plant can spill over to other plants within the same firm, by pooling capital and labor away from those other plants.[15]

This paper contributes to the literature in two different aspects. First, by exploiting the party turnover in presidencies in the United States, this paper provides the first large sample evidence on the existence of internal capital markets within conglomerate firms. Second, this paper links the

[15] Billett and Mauer (2003) find evidences that are consistent with both views. In particular, they find that efficient subsidies to financially constrained segments increase excess value, while inefficient transfers from segments with good relative investment opportunities significantly decrease excess value. They argue that the key benefit of an internal capital market is the ability of fund good investment opportunities of segments that would be financially constrained if they were stand-alone firms.

engagement of internal capital allocations to the diversification discount as well as firm valuations. We find that the engagement of internal capital allocations enlarges the diversification discount and reduces firm valuations.

This paper is related to the literature that documents the diversification discount by contrasting the performance and valuation of conglomerate firms with stand-alone firms. For instance, Lang and Stulz (1994) and Berger and Ofek (1995) provide the initial evidence about the misallocation of resources in conglomerate firms in the form of the diversification discount. However, there are also papers that question the existence of diversification discount. For example, Campa and Kedia (2002) show that the diversification discount turns into premium when the selection bias is addressed in their way. Graham, Lemmon, and Wolf (2002) find that although diversifying acquirers develop a discount following diversification, much of the excess value reduction occurs because firms acquire already discounted business units. Villalonga (2004) uses the Business Information Tracking Series and finds a diversification premium rather than a discount. Custodio (2014) shows that merger accounting can explain large parts of the valuation discounts of conglomerate firms. The literature that investigates the internal capital market in the financial sector, albeit distantly, is also related to this paper.[16]

The rest of this paper is organized as follows. Section 2 describes the data used in this paper and lays out the summary statistics. Section 3 shows the methodology and empirical results. Section 4 concludes.

2 Data and Summary Statistics

2.1 Segment and Firm Level Data

SFAS No. 14 requires that firms report information for segments that represent 10 percent or more of consolidated sales for fiscal years ending after December 15, 1977. To avoid the strategic report by firms before the mandate, our sample period spans from the fiscal year of 1978 to the fiscal year of 2012. The segment level data is from Compustat Historical Segments. For each segment, we collect six variables: net sales, operating profit (loss), depreciation and amortization, capital

[16] See, for example, Houston, James, and Marcus (1997), Campello (2002), and Gilje, Loutskina, and Strahan (forthcoming).

expenditures, identifiable total assets, and SIC (NAICS) code. Since firms may reorganize their segments over time, to ensure that each segment is comparable over time, we exclude segments with sales growth exceeding 100%. Following the literature, segments in the financial sector (SIC code starting with 6) and utility sector (SIC code starting with 49) are excluded. Conglomerate firms are defined as firms that operate in more than one industry. Accordingly, conglomerate segments are segments in conglomerate firms. The resulting segment level sample is 155,759 segment-year observations, out of which 74,642 are from conglomerate firms. Among non-government dependent conglomerate segments, about 56% are segments within conglomerate firms that operate both in government dependent industries and non-government dependent industries.

The corresponding firm level data is from Compustat fundamental annual files. When conducting firm level analysis, we exclude firms that report sales less than 10 millions, firms that operate in the financial sector (SIC code starting with 6) and utility sector (SIC code starting with 49), and firms in which the sum of segment sales deviates from total sales by more than one percent. The resulting firm level sample is 115,647 firm-year observations, out of which 34,386 (about 30%) are from conglomerate firms. Among the conglomerate firms, about 47% are firms that operate in both government dependent and non-government dependent industries.

2.2 Dependence on Government

We measure the industry dependence on government by using the data from the Benchmark Input-Output Accounts released by the Bureau of Economic Analysis (BEA). The industry input-output table provides detailed information at the industry-level about the flow of goods from one industry to another and the flow of goods from each industry to its final uses.[17] The tables that we make use of from BEA are the use table, which provides the dollar amount of each commodity consumed by each industry and final uses, and the industry-by-commodity total requirement table, which provides the dollar amount of industry output required per dollar of each commodity delivered to final demand. With these two tables, we calculate a measure of industry dependence on government

[17] The final uses include private consumption, private investment, private inventory changes, imports, exports, government consumption, and government investment.

that captures both the direct and indirect effect from the government.[18] Conceptually, this measure captures the fraction of the output in an industry that is used to produce the final products that are consumed by the government. The input-output tables are available for all years ending with 2 and 7 after 1967. In this paper, we use the input-output tables in the years of 1977, 1982, 1987, 1992, 1997, 2002, and 2007.[19] Table 1 lists a sample of industries with their levels of government dependence based on the input-output table of 2007. For example, 68.3% of the output of guided missile and space vehicle manufacturing is directly or indirectly purchased by the government sector, while only 2.1% of the output of carpet and rug mills is directly or indirectly purchased by the government sector.

To obtain the segment level government dependence, we match the industry government dependence calculated above to each segment based on the concordance table provided by BEA.[20] Formally, we use two variables to measure the government dependence of a segment. The first variable is *government dependence*, which is calculated using the procedure outlined above. The second variable is *dependence dummy*, which defined as a dummy variable that equals to one when *government dependence* is more than 10 percent.[21] To obtain the firm level *government dependence*, we calculate the weighted average of segment *government dependence*, with segment sales as the weights. Since the firm level *government dependence* may change over time due to the changes of sales over time within the same segment, we construct another measure for firm level government

[18] The procedure is as follows. First, from the use table, aggregate the final demand from government (both federal and local) at the commodity level. This number presents the dollar amount of a commodity output that is directly consumed by government. This is a commodity-by-one vector. Second, from the industry-by-commodity total requirement table, obtain the industry output required per dollar amount of each commodity delivered to final demand. This is an industry-by-commodity matrix. Third, multiplying the industry-by-commodity matrix by the commodity-by-one vector yields the total output required, both directly and indirectly, by each industry to fulfill the final government demand. This is an industry-by-one vector. Fourth, from use table, obtain the total industry output. This is also an industry-by-one vector. The element by element quotient of step 3 and step 4 is dependence of each industry on government. See the appendix of Belo, Gala, and Li (2013) for a detailed description.

[19] When matching the input-output table with the segment data, we use the information of the most recent input-output table until the next table is provided. For instance, from year 1982 to 1986, we use the 1982 I-O table; from 1987 to 1991, we use the 1987 I-O table.

[20] The BEA provides concordance tables between I-O industries and SIC codes before the year 1997, and concordance tables between I-O industries and NAICS codes after (including) the year 1997. Before the year 1997, for each three-digit SIC code, we calculate the weighted average of the measure of I-O industry government dependence, with the I-O industry total output as the weights. If not matched at the three-digit SIC level, we use the two-digit SIC code. After the year 1997 (included), for each five-digit NAICS code, we calculate the weighted average of the measure of I-O industry government dependence, with the I-O industry total output as the weights. If not matched at the five-digit NAICS level, we relax the number of NAICS digits until NAICS code and I-O code are matched.

[21] The sample median of government dependence is 0.11.

dependence: *average government dependence.* This measure is the firm-level average *government dependence* across all years within the sample. Across all segment-years, the median value of *government dependence* is 0.11. Within conglomerate segments, the median value of *government dependence* is 0.12. Across all firm-years, the median value of *government dependence* is 0.11. Within conglomerate firms, the median value of *government dependence* is 0.12. The statistics for *average government dependence* are similar.

To measure the impact of government dependent segments on non-government dependent segments, we use two variables: *Share of Sales in GDS* and *Average Share of Sales in GDS. Share of Sales in GDS* is the share of sales in a firm-year that are from segments with *government dependence* larger than 10%. Since this measure is also subject to the changes of segment sales across years, we calculate another measure: *Average Share of Sales in GDS.* This measure is the firm-level average *Share of Sales in GDS* across all years within the sample. For firms that only operate in government (non-government) dependent industries, *Share of Sales in GDS* is 1 (0). It only has variations among firms that operate in both government dependent and non-government dependent industries. For all conglomerate segments with *government dependence* smaller than 10%, the median value of *Share of Sales in GDS* is 0.05, whereas the median value of *Average Share of Sales in GDS* is 0.24.

2.3 Other Variables and Summary Statistics

Segment investment is measured as the ratio of capital expenditures over the identifiable total assets in the previous year (*Capex/Total Assets*). Firm investment is measured as the ratio of capital expenditure over the property, plant, and equipment in the previous year (*Capex/PPE*). To construct the diversification discount measure (*Excess Value*), we follow Berger and Ofek (1995) and Campa and Kedia (2002).[22] *Firm Q* is defined as the market value of assets divided by the book value of assets, where the market value of assets is computed as the book value of assets plus the market value of common stock less the sum of book value of common stock and balance

[22] The imputed value of a segment is obtained by multiplying segment sales with the median sales multiplier of all single-segment firm-years in that SIC. The sales multipliers are the median value of the ratio of total capital over sales. Total capital is the sum of market value of equity, long-term and short-term debt, and preferred stock. The industry definitions are based on the narrowest SIC grouping that includes at least five firms.

sheet deferred taxes. *Industry Q* is defined as the median Q of all stand-alone firms in the same two SIC digits. Segment cash flow (*Cash Flow/Total Assets*) is measured as the sum of operating profits (before tax) and depreciation and amortization scaled by the identifiable total assets in the previous year. Firm cash flow (*Cash Flow/Total Assets*) is measured as the sum of income before extraordinary items and depreciation and amortization scaled by the total assets in the previous year. *Ln(sales)* is defined as the natural logarithm of the sales at either the segment level or firm level. *Both* is a dummy variable that equals to one when a firm operates both in industries with *government dependence* larger than 10% and in industries with *government dependence* smaller than 10%.

Table 2 reports the summary statistics for all the variables constructed above. In Panel A, segment level variables are reported. Specifically, the first three columns report summary statistics for all segments; the middle three columns report summary statistics for only conglomerate segments; the last three columns report summary statistics for non-government dependent conglomerate segments (Non GDC segments), which are conglomerate segments with *government dependence* smaller than 10%. In Panel B, firm level variables are reported. Specifically, the first three columns report summary statistics for all firms; the last three columns report summary statistics for only conglomerate firms. All the variables are comparable between conglomerate segments and Non GDC segments except *government dependence.* This variable is different across these two groups by construction, since Non GDC segments only include conglomerate segments with *government dependence* smaller than 10%. Conglomerate segments seem larger than stand-alone segments. While investment is similar between conglomerate segments and stand-alone segments, the cash flow is higher in conglomerate segments than stand-alone firms. For instance, a median segment in the sample has 96.99 million in sales, 0.05 capex over assets ratio, 0.15 cash flow over asset ratio, and 1.43 industry Q. A median conglomerate segment has 132.44 million in sales, 0.05 capex over assets ratio, 0.18 cash flow over asset ratio, and 1.35 industry Q. At the firm level, conglomerate firms are larger than stand-alone firms. While a median firm has 152.43 millions in sales, a median conglomerate firm has 371.07 million in sales. The other variables are relatively comparable between conglomerate firms and stand-alone firms. For instance, the median value of cash flow is 0.09

for both all firms and conglomerate firms.[23] A median conglomerate firm trades at 15% discount relative to the stand-alone firms.

3 Methodology and Empirical Results

3.1 Government Dependence and Cash Flows

We first establish that, relative to non-government dependent industries, government dependent industries experience more cash flows in Democratic presidencies than in Republican presidencies. Formally, the models that we test here are:

$$\begin{aligned} Cash\ Flow/Total\ Assets_{i,j,t} &= \alpha + \beta Government\ Dependence * Democrat_{i,j,t} \\ &+ \gamma Government\ Dependence_{i,j,t} + \delta \ln(sales)_{i,j,t} \\ &+ \lambda Industry\ Q_{i,j,t-1} + \theta Firm\ Q_{i,t-1} \\ &+ Segment\ FE + Year\ FE + \varepsilon_{i,j,t} \end{aligned} \quad (1)$$

$$\begin{aligned} Cash\ Flow/Total\ Assets_{i,j,t} &= \alpha + \beta Dependence\ Dummy * Democrat_{i,j,t} \\ &+ \gamma Dependence\ Dummy_{i,j,t} + \delta \ln(sales)_{i,j,t} \\ &+ \lambda Industry\ Q_{i,j,t-1} + \theta Firm\ Q_{i,t-1} \\ &+ Segment\ FE + Year\ FE + \varepsilon_{i,j,t} \end{aligned} \quad (2)$$

where the unit of analysis is segment-year. i indexes firms, j indexes segments within a firm, and t indexes years. *Government Dependence* and *Dependence Dummy* are defined in section 2.2. *Democrat* is a dummy variable that equals to one in years when the president in office is from the Democratic party. Control variables include the natural logarithm of total segment sales, the

[23] The cash flow over total assets ratio is smaller at the firm level than at the segment level. This may be due to the fact that the cash flow at the segment level is before tax while the cash flow at the firm level is after tax.

lagged value of *industry Q*, and the lagged value of *firm Q*. Firm-segment and year fixed effects are included in the regression, and standard errors are clustered at the firm level. If the difference of cash flows between government dependent industries and non-government dependent industries is larger in Democratic presidencies than in Republican presidencies, we expect $\beta > 0$ in both models.

Model 1 uses a continuous variable as the measure for government dependence; Model 2 uses a dummy variable to distinguish government dependent industries and non-government dependent industries. The first two columns of Table 3 report regression results using all segments for the above two models, while the last two columns report regression results using only conglomerate segments. The variables of interest in this table are the interaction terms: *Government Dependence* $*$ *Democrat* and *Dependence Dummy*$*$*Democrat*. The positive and significant coefficients in front of the interaction terms in this table confirm that segments in more government dependent industries observe a larger increase in cash flows after the turnover of parties in presidencies from a republican to a democrat. Specifically, cash flow increases on average by and additional 1.3 percentage points for a segment in a government dependent industry compared to a segment in a non-government dependent industry (Column 1). This magnitude is economically large as well. Since the cash flow of a median segment in the sample is about 0.15, 1.3 percentage points equal to 9% of the cash flow of a median segment. If using conglomerate segments, the results are qualitatively similar, as shown in the last two columns of Table 3.

Overall, the patterns in Table 3 substantiate that party turnover in presidencies is associated with a change in the segment cash flow, especially in the industries that are most reliant on government.[24]

3.2 Existence of Internal Capital Markets

3.2.1 Baseline Results

After establishing the cash flow differences between government dependent industries and non-government dependent industries across different parties in presidencies, we turn to test the existence of internal capital markets within conglomerate firms in this subsection. We estimate a

[24] Although Belo, Gala, and Li (2013) argue the change is mainly due to the difference in government spending, the actual driver for this change is beyond the scope of this paper.

three-dimensional panel regression of the investment in non-government dependent segments on each firm's share of sales in government dependent segments, as follows:

$$\begin{aligned} Capex/Total\ Assets_{i,j,t} &= \alpha + \beta Share\ of\ Sales\ in\ GDS * Democrat_{i,t} \\ &+\gamma Share\ of\ Sales\ in\ GDS_{i,t} + \delta \ln(sales)_{i,j,t} \\ &+\lambda Cash\ Flow/Total\ Assets_{i,j,t} + \theta Firm\ Q_{i,t-1} \\ &+Industry * Year\ FE + \varepsilon_{i,j,t} \end{aligned} \tag{3}$$

where the unit of analysis is segment-year. i indexes firms, j indexes segments within a firm, and t indexes years. *Share of Sales in GDS* is defined in section 2.2. *Democrat* is a dummy variable that equals to one in years when the president in office is from the Democratic party. Control variables include the natural logarithm of total segment sales, the lagged value of *firm Q*, and the segment level cash flow. *Industry*Year* fixed effects are included in the regression, and standard errors are clustered at the firm level. Industry is identified by two SIC digits. The *industry*year* fixed effects remove all the time varying industry level shocks that could potentially impact the investment prospects. To further control the firm level investment prospects, we put lagged value of *firm Q* as a control variable, aiming to absorb the investment opportunity difference at the firm level. Moreover, we include in our sample only conglomerate segments in non-government dependent industries. β compares the difference in investment between segments with high *Share of Sales in GDS* and segments in the same industry-year with low *Share of Sales in GDS* in the Democratic presidencies with the corresponding difference in the Republican presidencies.

One issue with the measure *Share of Sales in GDS* is that it may vary over time due to the changes of sales across different segments in a firm-year. For instance, from Republican presidencies to Democratic presidencies, *Share of Sales in GDS* may increase because of the increase in sales in government dependent segments. To allay this concern, we construct an alternative measure *Average Share of Sales in GDS* by averaging the firm level *Share of Sales in GDS* across all years

in our sample. By construction, this measure doesn't vary over time within a firm.

The results are shown in Table 4. Across both panels, the first column reports the impact of *(Average) Share of Sales in GDS* on the investment of non-government dependent segments within the same firm in years when the president in office is a democrat; the second columns reports the impact of *(Average) Share of Sales in GDS* on the investment of non-government dependent segments within the same firm in years when the president in office is a republican; the last column reports the difference in difference estimator by contrasting the difference in investment between non-government segments in conglomerate firms with high *(Average) Share of Sales in GDS* and those in conglomerate firms with low *(Average) Share of Sales in GDS* in Democratic presidencies with the corresponding difference in Republican presidencies. Panel A reports results with *Share of Sales in GDS,* and Panel B reports results with *average Share of Sales in GDS.* The results in both panels indicate that *(Average) Share of Sales in GDS* has a significant larger impact on investments in Democratic presidencies than in Republican presidencies. The economic magnitude is also large. The investment goes up on average by another 0.37 percentage points (0.012*0.31) when *Average Share of Sales in GDS* is increased by one standard deviation (0.31). The median value of investment in Non GDC segments is 0.05, so 0.37 percentage points represent about 7.4 percent increase.

Moreover, if conglomerate firms direct capital from high cash flow segments to low cash flow segments, the investment gap between high cash flow segments and low cash flow segments should shrink when internal capital markets become more active. The above argument can be tested using a difference-in-difference-in-difference approach. For conglomerate firms that only operate in high (low) government dependence industries, they can only reallocate capital within high (low) government dependence industries. However, conglomerate firms that operate in both high government dependence industries and low government dependence industries can reallocate capital between these two sets of industries. The difference-in-difference estimator is the difference in investments between high government dependence segments and low government dependence segments following the turnover in presidencies from a republican to a democrat. The above estimator when estimated using conglomerate firms that only operate in either high or low government dependence indus-

tries (*Both=0*) captures investment difference induced by party switch in presidencies.[25] When using conglomerate firms that operate in both high government dependence and low government dependence industries (*Both=1*) to estimate, it captures a combined imapct, with internal capital reallocations also included. The difference between the above two difference-in-difference estimators captures the impact of internal capital reallocations. The model is as follows:

$$\begin{aligned} Capex/Total\ Assets_{i,j,t} = \quad & \alpha + \beta Both * Democrat * Government\ Dependence_{i,j,t} \\ & + \gamma Both * Democrat_{i,j,t} + \eta Democrat \\ & * Government\ Dependence_{i,j,t} + \zeta Both \\ & * GovernmentDependence_{i,j,t} + \delta \ln(sales)_{i,j,t} \\ & + \lambda Cash\ Flow/Total\ Assets_{i,j,t} \\ & + \phi Government\ Dependence_{i,j,t} + \varphi Both_{i,t} + \rho Industry\ Q_{i,j,t-1} \\ & + \theta Firm\ Q_{i,t-1} + Segment\ FE + Year\ FE + \varepsilon_{i,j,t} \end{aligned} \tag{4}$$

where the unit of analysis is segment-year and the sample contains all conglomerate segments in the sample. i indexes firms, j indexes segments within a firm, and t indexes years. *Both* and *Government Dependence* are defined in section 2.2. *Democrat* is a dummy variable that equals to one in years when the president in office is from the Democratic party. Control variables include the natural logarithm of total segment sales, the lagged value of *firm Q*, the lagged value of *industry Q*, and the segment level cash flow. The double interaction terms, the single terms, and segment and year fixed effects are included in the regression, and standard errors are clustered at the firm level.

The triple interaction term $Both * Democrat * Government\ Dependence$ yields the investments caused by internal capital reallocations. The results for Model 4 are shown in Table 5. The first columns reports results without controlling *firm Q* and *industry Q;* the second column adds *lagged*

[25] There might be internal capital reallocations in conglomerate firms that operate only in either high or low government dependence industries as well. As long as the internal capital reallocations are similar in those two types of conglomerate firms, they are differenced out by the difference-in-difference estimator .

industry Q as an additional control variables; the last column puts *lagged firm Q* in as well. Across all these three specifications, the triple interaction term is negative and significant, which indicates that the investment gap is indeed lower when the internal capital market is more active. Taking Column 3 of Panel A in Table 6 for example, for one standard deviation increase in *Government Dependence* (0.10), the increase in investments of segments in conglomerate firms that operate in both high government dependence and low government dependence industries is 0.49 percentage points (0.049*0.10) lower than the corresponding increase in conglomerates that operate only in either high or low government dependence industries, which is about 10 percent of the median segment investment.

The results in this subsection establish that when the cash flows in some of the segments in conglomerate firms increase, this increased cash flows tend to spill over to the other segments, holding fixed the investment prospects in those segments.

3.2.2 Robustness Checks

This subsection investigates the robustness of the findings documented in the previous subsection. First, rather than using the share of sales in government dependent segments, we look at whether a conglomerate firm operates in both government dependent and non-government dependent industries. We create a dummy variable *Both* that equals to one if a segment has companion segments that operate in government dependent industries. The model specification is the same as Model 3, except that *Share of Sales in GDS* is replaced with *Both.* The sample used to test this specification is the same as that used in Model 3. The result is shown in Column 1 of Table 6. The interaction term *Both*Democrat* is positive and significant. Specifically, when segments have companion segments in government dependent industries, the difference of investments between these segments and the remaining segments in the same industry is 0.7 percentage points higher in Democratic presidencies than in Republican presidencies.

Second, rather than using the *industry*year* fixed effects, in the remaining three columns of Table 6, we put in *Government Dependence*Year* fixed effects. These specifications remove all the common shocks of segments with the same government dependence in a given year. Since the government dependence measure is mainly based on the industry classifications, not surprisingly,

models with *Government Dependence*Year* fixed effects yield very similar results to models with *industry*year* fixed effects.

Overall, this subsection provides evidence that are consistent with the existence of internal capital markets. We turn to test the efficiency of internal capital markets in the next subsection.

3.3 Efficiency of Internal Capital Markets

In this subsection, we relate the engagement of the internal capital market to a conglomerate firm's valuation and its diversification discount. If internal capital markets tend to allocate capital within conglomerate firms inefficiently, firm valuations should decline when internal market capital markets are more active. At the same time, the diversification discount should become greater. To formally test this, we estimate the following model:

$$\begin{aligned} Excess\ Value_{i,t} \;=\; & \alpha + \beta Average\ Government\ Dependence * Democrat * Conglomerate_{i,t} \\ & + \gamma Average\ Government\ Dependence * Democrat_{i,t} \\ & + \eta Democrat * Conglomerate_{i,t} \\ & + \zeta AverageGovernment\ Dependence * Conglomerate_{i,t} \\ & + \theta Conglomerate_{i,t} + \varphi Capex/PPE_{i,t} + \lambda Cash\ Flow/Total\ Assets_{i,t} \\ & + \delta \ln(sales)_{i,t} + Firm\ FE + Year\ FE + \varepsilon_{i,t} \end{aligned} \tag{5}$$

where the unit of analysis is firm-year. i indexes firms and t indexes years. *Excess Value* is defined as Berger and Ofek (1995). *Democrat* is a dummy variable that equals to one in years when the president in office is from the Democratic party. *Conglomerate* is a dummy variable that equals to one if a firm operate in multiple industries. *Average Government Dependence* is defined in Section 2.2. Control variables include the natural logarithm of total firm sales, firm level investment, and firm level cash flow. Firm fixed effects and year fixed effects are included in the regression, and standard errors are clustered at the firm level.

Since *Government Dependence* at the firm level is calculated as the weighted average of seg-

ment *Government Dependence,* with segment sales as weights, it may endogenously vary over time due to the changes in the proportion of sales across different segments. Instead, *Average Government Dependence* is the average of *Government Dependence* across all sample years within a firm, so it doesn't vary over time, and therefore alleviates the concern.[26] The results for Model 5 are shown in Panel A of Table 7. The variable of interest is the triple interaction term *Average Government Dependence* $*$ *Democrat* $*$ *Conglomerate*. It captures difference of the differential impact of government dependence on excess value across different parties in presidencies between conglomerate firms and stand-alone firms.[27] If the internal capital market operation exacerbates the diversification discount, β is expected to be negative, because conglomerate firms are more likely to do internal capital allocations compared to stand-alone firms. As shown in Column 1 of Panel A in Table 7, β is indeed negative and statistically significant. When *Average Government Dependence* is increased by one standard deviation (0.09), the differential impact on valuation across different parties is 0.022 smaller in conglomerate firms than in stand-alone firms. To have a sense of the economic magnitude of this number, we regress *excess value* on *Conglomerate, Capex/PPE, Cash Flow/Total Assets, Firm FE, and Year FE*, and obtain a coefficient of 0.05 on *Conglomerate*, which represents the average diversification discount in the sample.[28]

There are also heterogeneities among conglomerate firms. In particular, conglomerate firms that operate in both government dependent industries and non-government dependent industries are more likely to engage in internal capital allocations following turnover in presidential parties compared to conglomerate firms that operate only in either government dependent industries or non-government dependent industries. Columns 3 and 4 of Panel A in Table 7 exploit this intuition by investigating the variations among conglomerate firms. Since all firms that operate in both government dependent and non-government dependent industries (defined as *Both*=1) are conglomerate firms (defined as *Conglomerate*=1), throwing in the terms *Average Government Dependence* $*$

[26] The results are similar when using *Government Dependence,* as shown in Table 9.

[27] Conceptually, β can be interpreted in the following way: first, the differential impact of government dependence on firm's excess value in Democratic presidencies vs. Republican presidencies is separately estimated in conglomerate firms and stand-alone firms; second, β captures the difference of the estimator between using conglomerate firms and using stand-alone firms.

[28] The t statistics (with standard errors clustered by firms) of the coefficient in front of *Conglomerate* is 3.89.

Democrat∗Both, *Democrat∗Both*, *AverageGovernment Dependence∗Conglomerate*, *and Both* would differentiate the impact in the above two groups. Specifically, *Average Government Dependence∗ Democrat ∗ Both* captures the incremental effect for conglomerate firms that operate in both government dependent and non-government dependent industries. Column 3 shows that the coefficient in front of *Average Government Dependence ∗ Democrat ∗ Both* is negative and statistically significant, indicating that the impact documented in Column 1 is mainly concentrated in firms that operate in both government dependent and non-government dependent industries.[29] Panel B of Table 8 reports a similar set of results when the analysis is conducted using only conglomerate firms. The results confirm the findings in Panel A, and the magnitude is also similar. In the even columns of Table 8 (both panels), the natural logarithm of *firm Q* is used as the dependent variable rather than excess value. The results mirror the findings when using *Excess Value* as the dependent variable.

Table 8 performs the same analysis as Table 8 by using firm level *Government Dependence* rather than firm level *Average Government Dependence*. The results are very similar to those reported in Table 8.

Overall, this subsection provides evidence consistent with the dark side view of the internal capital market. In particular, when the internal capital market is more active, the internal capital reallocation has a large and negative impact on firm valuations (measured by *Ln(Firm Q)* or *Excess Value*). This valuation impact is particularly strong among conglomerate firms that operate in both government and non-government dependent industries.

4 Conclusion

This paper investigates the internal capital market within conglomerate firms. To address the potential endogeneity concern, we exploit the party turnover in the presidencies in the United States. Following the turnover in presidencies from a republican to a democrat, government dependent industries experience more cash flows than non-government dependent industries. Armed with this

[29] The coefficient in front of *Average Government Dependence*Democrat*Conglomerate* in Column 3 shrinks and becomes insignificant, indicating that the impact in the remaining conglomerate firms is small and indistinguishable from zero.

shock to the government dependent industries as opposed to non-government dependent industries, we first study whether the internal capital market within a conglomerate firm actively reallocates funds across its divisions. We find that when firms have higher fraction of sales from government dependent industries, their non-government dependent segments invest more than their peer segments within the same industry in Democratic presidencies relative to Republican presidencies. This suggests the existence of internal capital markets within conglomerate firms, in the sense that the increased cash flows from government dependent segments spill over to the remaining segments.

After establishing the existence of internal capital markets, we test the efficiency of internal capital allocations. In particular, we investigate the valuation consequences of engagement in internal capital allocations. We find that the diversification discount is larger and the valuation is lower when the internal capital reallocations are more active. Specifically, the exacerbation of diversification discount and the decline of firm valuation are mainly concentrated in conglomerate firms that operate in both government dependent and non-government dependent industries. Overall, the findings in this paper are consistent with the dark side view of the internal capital market.

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Table 1 The Government Dependence of Industries

This table reports a sample of industries with different levels of government dependence. The data and the industry classification are based on the 2007 Benchmark Input-Output Accounts table.

I-O Code	Industry	Government Dependence
233293	Highways and Streets	0.985
336414	Guided Missile and Space Vehicle Manufacturing	0.683
334300	Audio and Video Equipment Manufacturing	0.533
331411	Primary Smelting and Refining of Copper	0.458
541700	Scientific Research and Development Services	0.367
336120	Heavy Duty Truck Manufacturing	0.272
333415	Air Conditioning, Refrigeration, and Warm Air Heat	0.173
322130	Paperboard Mills	0.168
326210	Tire Manufacturing	0.133
33721A	Office Furniture and Custom Architectural Woodwork	0.110
337215	Showcase, Partition, Shelving, and Locker Manufacturing	0.097
112120	Dairy Cattle and Milk Production	0.081
333920	Material Handling Equipment Manufacturing	0.077
316000	Leather and Allied Product Manufacturing	0.069
339112	Surgical and Medical Instrument manufacturing	0.057
311225	Fats and Oils Refining and Blending	0.049
336612	Boat Building	0.038
314110	Carpet and Rug Mills	0.021
336212	Truck Trailer Manufacturing	0.014
336213	Motor Home Manufacturing	0.003

Table 2 Summary Statistics

The sample is by segment-year in Panel A and by firm-year in Panel B. $Cash\ Flow/Total\ Assets$ is the operating profits of the segment (firm) plus segment (firm) depreciation scaled by the segment (firm) total assets in previous year; $Capex/Total\ Assets$ is the segment capital expenditure scaled by the segment total assets in previous year; $Capex/PPE$ is the firm capital expenditure scaled by the property, plants, and equipment of that firm in previous year; $Sales$ is the segment (firm) sales; $Government\ Dependence$ is the measure defined in section 2; $Dependence\ Dummy$ is a dummy variable that equals to one when $Government\ Dependence$ is larger than 10%; $Average\ Government\ Dependence$ is the firm level average $Government\ Dependence$ across all years in the sample; $Firm\ Q$ is defined as the market value of assets divided by the book value of assets, where the market value of assets is computed as the book value of assets plus the market value of common stock less the sum of book value of common stock and balance sheet deferred taxes; $Industry\ Q$ is the median Q of all stand-alone firms in a given year in the same two digit SIC industry; $Share\ of\ Sales\ in\ GDS$ is the share of sales in a firm-year that are from segments with $Government\ Dependence$ larger than 10%; $Average\ Share\ of\ Sales\ in\ GDS$ is the firm level average $Share\ of\ Sales\ in\ GDS$ across all years in my sample; $Both$ is a dummy variable that equals to one when a firm operates both in industries with $Government\ Dependence$ larger than 10% and in industries with $Government\ Dependence$ smaller than 10%; $Excess\ Value$ is the natural logarithm of the ratio of firm value to its imputed value based on Berger and Ofek (1995); $Conglomerate$ is a dummy variable that equals to one if a firm operates in multiple industries in a given year. Panel A reports the summary statistics at the segment level. "All Segments" reports summary statistics for all segments in my sample; "Conglomerate Segments" reports summary statistics for segments in conglomerate firms, which are defined as firms that operate in multiple industries ($Conglomerate = 1$); "Non GDC Segments" reports summary statistics for conglomerate segments with $Government\ Dependence$ smaller than 10% ($Conglomerate = 1$ and $Dependence\ Dummy = 0$). Panel B reports the summary statistics at the firm level. "All Firms" reports summary statistics for all firms in my sample; "Conglomerate Firms" reports summary statistics for conglomerate firms in my sample ($Conglomerate = 1$). Variables are winsorized at 1st and 99th percentile when applicable.

Panel A: Segment Level Variables									
	All Segments			Conglomerate Segments			Non GDC Segments		
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
Cash Flow/Total Assets	0.13	0.15	0.35	0.20	0.18	0.27	0.19	0.17	0.27
Capex/Total Assets	0.08	0.05	0.11	0.08	0.05	0.11	0.08	0.05	0.11
Sales (mm$)	996.59	96.99	5411.75	1258.61	132.44	6519.74	1308.38	135.49	6707.26
Government Dependence	0.13	0.11	0.10	0.13	0.12	0.10	0.05	0.06	0.03
Industry Q	1.57	1.43	0.55	1.49	1.35	0.52	1.43	1.30	0.49
Share of Sales in GDS							0.25	0.05	0.32
Average Share of Sales in GDS							0.32	0.24	0.31
Both							0.56	1	0.50
Panel B: Firm Level Variables									
	All Firms			Conglomerate Firms					
	Mean	Median	SD	Mean	Median	SD			
Cash Flow/Total Assets	0.07	0.09	0.25	0.08	0.09	0.16			
Capex/PPE	0.40	0.24	0.60	0.30	0.20	0.41			
Sales (mm$)	1617.38	152.43	9158.92	3322.31	371.07	15364.3			
Government Dependence	0.13	0.11	0.10	0.13	0.12	0.09			
Average Government Dependence	0.13	0.11	0.09	0.13	0.12	0.08			
Firm Q	1.82	1.33	1.81	1.50	1.21	1.15			
Excess Value	-0.06	-0.04	0.81	-0.16	-0.15	0.74			
Conglomerate	0.30	0	0.46						
Both				0.47	0.00	0.50			

Table 3 Changes in Cash Flows across Different Presidential Party Affiliations

The sample is the segment-year panel data from 1978 to 2012. The dependent variable is $Cash\ Flow/Total\ Assets$. $Democrat$ is a dummy variable that equals to one when the president in that year is a democrat; $\ln(sales)$ is the natural logarithm of segment sales. All other variables are the same as in Table 2. The first two columns report regression results for all segments; the second two columns report regression results for segments in conglomerate firms (defined as firms operate in multiple industries). Constant, segment fixed effects, and year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level, and the corresponding t statistics are reported in the parentheses below the coefficient estimates. * denotes significance at 10 percent, ** denotes significance at 5 percent, and *** denotes significance at 1 percent.

	All Segments		Conglomerate Segments	
	(1)	(2)	(3)	(4)
$Dependence\ Dummy * Democrat$	0.013***		0.018***	
	(3.800)		(3.740)	
$Dependence\ Dummy$	-0.002		-0.010**	
	(-0.383)		(-1.994)	
$Government\ Dependence * Democrat$		0.067***		0.085***
		(4.025)		(3.451)
$Government\ Dependence$		-0.035		-0.085
		(-1.162)		(-1.621)
$\ln(sales)$	0.098***	0.098***	0.081***	0.081***
	(24.004)	(24.056)	(11.258)	(11.314)
$Lagged\ Industry\ Q$	0.022***	0.022***	0.015***	0.015***
	(6.483)	(6.557)	(3.154)	(3.184)
$Lagged\ Firm\ Q$	-0.024***	-0.024***	0.022***	0.022***
	(-9.486)	(-9.481)	(3.822)	(3.822)
Segment FE	Yes	Yes	Yes	Yes

Year FE	Yes	Yes	Yes	Yes
Observations	155,562	155,562	74,451	74,451
R-squared	0.716	0.716	0.649	0.649

Table 4 Investments of Non-government Dependent Segments across Different Presidential Party Affiliations

The sample is all the segment-years with $Government\ Dependence$ smaller than 10% from 1978 to 2012. The dependent variable is $Capex/Total\ Assets$. $Democrat$ is a dummy variable that equals to one when the president in that year is a democrat. All other variables are the same as in Table 2. In both panels, the first column reports regression results when the president is a democrat; the second column reports regression results when the president is a republican; the last column reports regression results for all years. Panel A reports results with the firm level share of sales in the government dependent industries (varies across firm-years) as a measure for a firm's dependence on government; Panel B reports results with the firm-level average share of sales in the government dependent industries across all years (varies only across firms) as a measure for a firm's dependence on government. Constant and industry (two SIC digits)*year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level, and the corresponding t statistics are reported in the parentheses below the coefficient estimates. * denotes significance at 10 percent, ** denotes significance at 5 percent, and *** denotes significance at 1 percent.

Panel A: Share of Sales in Government Dependent Segments (GDS)

	Democrat Years	Republican Years	All Years
	(1)	(2)	(3)
$Share\ of\ Sales\ in\ GDS * Democrat$			0.014***
			(2.771)
$Share\ of\ Sales\ in\ GDS$	0.011**	-0.003	-0.003
	(2.421)	(-0.663)	(-0.705)
$\ln(sales)$	-0.000	0.001**	0.001
	(-0.412)	(2.078)	(1.269)
$Cash\ Flow/Total\ Assets$	0.038***	0.027***	0.031***
	(4.255)	(2.608)	(4.117)
$Lagged\ Firm\ Q$	0.007***	0.007***	0.007***
	(3.020)	(3.295)	(4.319)
SIC*Year FE	Yes	Yes	Yes

Observations	12,946	20,014	32,960
R-squared	0.197	0.189	0.192
Panel B: Average Share of Sales in Government Dependent Segments (GDS)			
	Democrat Years	Republican Years	All Years
	(1)	(2)	(3)
$Average\ Share\ of\ Sales\ in\ GDS * Democrat$			0.012**
			(2.288)
$Average\ Share\ of\ Sales\ in\ GDS$	0.020***	0.008*	0.008
	(4.164)	(1.886)	(1.883)
$\ln(sales)$	-0.000	0.001**	0.001
	(-0.390)	(2.274)	(1.408)
$Cash\ Flow/Total\ Assets$	0.038***	0.027***	0.031***
	(4.247)	(2.649)	(4.153)
$Lagged\ Firm\ Q$	0.007***	0.007***	0.007***
	(3.057)	(3.382)	(4.415)
SIC*Year FE	Yes	Yes	Yes
Observations	12,946	20,014	32,960
R-squared	0.198	0.189	0.193

Table 5 Investment Gap between High Government Dependence Segments and Low Government Dependence Segments

The sample is all the segment-years within conglomerate firms from 1978 to 2012. The dependent variable is $Capex/Total\ Assets$. $Democrat$ is a dummy variable that equals to one when the president in that year is a democrat. All other variables are the same as in Table 2. All standard errors are adjusted for clustering at the firm level, and the corresponding t statistics are reported in the parentheses below the coefficient estimates. * denotes significance at 10 percent, ** denotes significance at 5 percent, and *** denotes significance at 1 percent.

	(1)	(2)	(3)
$Both * Democrat * Government\ Dependence$	-0.056***	-0.053***	-0.049**
	(-2.854)	(-2.703)	(-2.340)
$Both * Democrat$	0.001	0.005	0.005
	(0.407)	(1.538)	(1.534)
$Democrat * Government\ Dependence$	0.042***	0.051***	0.051***
	(2.977)	(3.383)	(3.222)
$Both * Government\ Dependence$	0.025	0.019	0.024
	(1.328)	(1.000)	(1.243)
$\ln(sales)$	0.001	0.000	-0.000
	(0.639)	(0.101)	(-0.162)
$Cash\ Flow/Total\ Assets$	0.042***	0.056***	0.053***
	(5.974)	(6.943)	(6.099)
$Government\ Dependence$	-0.008	-0.010	-0.009
	(-0.408)	(-0.486)	(-0.423)
$Both$	-0.002	-0.002	-0.002
	(-0.518)	(-0.731)	(-0.674)
$Lagged\ Industry\ Q$		0.028***	0.025***
		(9.676)	(8.324)
$Lagged\ Firm\ Q$			0.011***

			(6.089)
Segment FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	101,675	82,018	72,423
R-squared	0.476	0.482	0.489

Table 6 Existence of Internal Capital Markets: Robustness Tests

The sample is all the segment-years with $Government\ Dependence$ smaller than 10% from 1978 to 2012. The dependent variable is $Capex/Total\ Assets$. $Democrat$ is a dummy variable that equals to one when the president in that year is a democrat. All other variables are the same as in Table 2. All standard errors are adjusted for clustering at the firm level, and the corresponding t statistics are reported in the parentheses below the coefficient estimates. * denotes significance at 10 percent, ** denotes significance at 5 percent, and *** denotes significance at 1 percent.

	(1)	(2)	(3)	(4)
$Both * Democrat$	0.007**	0.008**		
	(2.118)	(2.395)		
$Both$	0.000	-0.002		
	(0.018)	(-0.930)		
$Share\ of\ Sales\ in\ GDS * Democrat$			0.014***	
			(2.729)	
$Share\ of\ Sales\ in\ GDS$			-0.004	
			(-0.980)	
$Average\ Share\ of\ Sales\ in\ GDS * Democrat$				0.011**
				(2.023)
$Average\ Share\ of\ Sales\ in\ GDS$				0.004
				(0.985)
$\ln(sales)$	0.001	0.001	0.001	0.001
	(1.180)	(1.152)	(1.177)	(1.303)
$Cash\ Flow/Total\ Assets$	0.031***	0.032***	0.032***	0.033***
	(4.124)	(4.153)	(4.150)	(4.170)
$Lagged\ Firm\ Q$	0.007***	0.008***	0.008***	0.008***
	(4.337)	(4.339)	(4.336)	(4.374)
SIC*Year FE	Yes	No	No	No

Government Dependence*Year FE	No	Yes	Yes	Yes
Observations	32,960	32,302	32,302	32,302
R-squared	0.192	0.235	0.235	0.236

Table 7 Internal Capital Markets and Firm Valuations

The sample in Panel A is all the firm-years in Compustat Segment Files from 1978 to 2012; the sample in Panel B is all the firm-years in Compustat Segment Files that operate in multiple industries from 1978 to 2012. $Democrat$ is a dummy variable that equals to one when the president in that year is a democrat. All other variables are the same as in Table 2. Constant, firm fixed effect, and year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level, and the corresponding t statistics are reported in the parentheses below the coefficient estimates. * denotes significance at 10 percent, ** denotes significance at 5 percent, and *** denotes significance at 1 percent.

Panel A: All Firms				
	(1)	(2)	(3)	(4)
	$Excess\ Value$	$Ln(Firm\ Q)$	$Excess\ Value$	$Ln(Firm\ Q)$
$Average\ Government\ Dependence *$			-0.472**	-0.287**
$Democrat * Both$			(-2.139)	(-2.086)
$Average\ Government\ Dependence * Both$			0.453**	0.153
			(2.063)	(1.090)
$Democrat * Both$			0.061*	0.051**
			(1.799)	(2.481)
$Both$			-0.064**	-0.031
			(-1.992)	(-1.642)
$Average\ Government\ Dependence *$	-0.246**	-0.304***	-0.098	-0.209**
$Democrat * Conglomerate$	(-2.011)	(-3.782)	(-0.689)	(-2.293)
$Average\ Government\ Dependence * Democrat$	0.043	0.505***	0.042	0.505***
	(0.628)	(10.313)	(0.626)	(10.310)
$Democrat * Conglomerate$	0.069***	0.042***	0.050**	0.023*
	(3.609)	(3.454)	(2.202)	(1.655)

$Average\ Government\ Dependence *$	-0.065	0.198**	-0.201	0.148
$Conglomerate$	(-0.406)	(1.964)	(-1.178)	(1.395)
$Conglomerate$	-0.059**	-0.064***	-0.038	-0.052***
	(-2.381)	(-4.388)	(-1.486)	(-3.384)
$Capex/PPE$	0.200***	0.142***	0.200***	0.142***
	(35.150)	(32.643)	(35.155)	(32.649)
$Cash\ Flow/Total\ Assets$	0.146***	0.210***	0.146***	0.209***
	(6.395)	(9.749)	(6.395)	(9.747)
$\ln(sales)$	-0.099***	-0.051***	-0.099***	-0.051***
	(-12.896)	(-11.200)	(-12.883)	(-11.161)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	115,647	112,122	115,647	112,122
R-squared	0.604	0.627	0.604	0.627

Panel B: Conglomerate Firms

	(1)	(2)
	$Excess\ Value$	$Ln(Firm\ Q)$
$Average\ Government\ Dependence *$	-0.580**	-0.296**
$Democrat * Both$	(-2.562)	(-2.173)
$Average\ Government\ Dependence * Both$	0.379*	0.226
	(1.645)	(1.635)
$Democrat * Both$	0.071**	0.043**
	(2.060)	(2.157)
$Average\ Government\ Dependence * Democrat$	-0.026	0.288***
	(-0.209)	(3.554)
$Both$	-0.056*	-0.042**
	(-1.695)	(-2.236)

$Capex/PPE$	0.147***	0.119***
	(8.656)	(10.589)
$Cash\ Flow/Total\ Assets$	0.342***	0.299***
	(4.046)	(3.074)
$\ln(sales)$	-0.121***	-0.032***
	(-7.658)	(-3.927)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	34,386	32,790
R-squared	0.641	0.671

Table 8 Internal Capital Markets and Firm Valuations: Robustness

The sample in Panel A is all the firm-years in Compustat Segment Files from 1978 to 2012; the sample in Panel B is all the firm-years in Compustat Segment Files that operate in multiple industries from 1978 to 2012. $Democrat$ is a dummy variable that equals to one when the president in that year is a democrat. All other variables are the same as in Table 2. Constant, firm fixed effect, and year fixed effects are included in all regressions. All standard errors are adjusted for clustering at the firm level, and the corresponding t statistics are reported in the parentheses below the coefficient estimates. * denotes significance at 10 percent, ** denotes significance at 5 percent, and *** denotes significance at 1 percent.

Panel A: All Firms

	(1) $Excess\ Value$	(2) $Ln(Firm\ Q)$	(3) $Excess\ Value$	(4) $Ln(Firm\ Q)$
$Government\ Dependence * Democrat * Both$			-0.550***	-0.277**
			(-2.589)	(-2.196)
$Government\ Dependence * Both$			0.456**	0.214*
			(2.250)	(1.819)
$Democrat * Both$			0.071**	0.050***
			(2.236)	(2.656)
$Both$			-0.068**	-0.041**
			(-2.302)	(-2.550)
$Government\ Dependence * Democrat * Conglomerate$	-0.341***	-0.231***	-0.171	-0.142*
	(-3.038)	(-3.198)	(-1.322)	(-1.738)
$Government\ Dependence * Democrat$	0.136**	0.446***	0.136**	0.446***
	(2.207)	(10.179)	(2.209)	(10.178)
$Democrat * Conglomerate$	0.078***	0.033***	0.055***	0.014
	(4.353)	(2.893)	(2.629)	(1.052)
$Government\ Dependence * Conglomerate$	-0.193	0.128	-0.334**	0.058

	(-1.473)	(1.565)	(-2.350)	(0.651)
$Government\ Dependence$	-0.121	-0.420***	-0.127	-0.422***
	(-1.251)	(-6.798)	(-1.305)	(-6.817)
$Conglomerate$	-0.042*	-0.055***	-0.019	-0.040***
	(-1.922)	(-4.388)	(-0.814)	(-2.895)
$Capex/PPE$	0.200***	0.142***	0.200***	0.142***
	(35.156)	(32.672)	(35.161)	(32.679)
$Cash\ Flow/Total\ Assets$	0.146***	0.210***	0.146***	0.210***
	(6.385)	(9.773)	(6.379)	(9.770)
$\ln(sales)$	-0.100***	-0.052***	-0.100***	-0.052***
	(-13.004)	(-11.368)	(-12.983)	(-11.334)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	115,647	112,122	115,647	112,122
R-squared	0.604	0.627	0.604	0.627

Panel B: Conglomerate Firms

	(1)	(2)
	$Excess\ Value$	$Ln(Firm\ Q)$
$Government\ Dependence * Democrat$	-0.630***	-0.219*
$* Both$	(-2.951)	(-1.799)
$Government\ Dependence * Both$	0.286	0.170
	(1.363)	(1.472)
$Democrat * Both$	0.076**	0.034*
	(2.393)	(1.845)
$Government\ Dependence * Democrat$	0.014	0.292***
	(0.122)	(4.108)
$Government\ Dependence$	-0.543***	-0.538***

	(-3.265)	(-5.342)
$Both$	-0.050	-0.040**
	(-1.642)	(-2.438)
$Capex/PPE$	0.146***	0.119***
	(8.621)	(10.602)
$Cash\ Flow/Total\ Assets$	0.341***	0.298***
	(4.027)	(3.070)
$\ln(sales)$	-0.124***	-0.033***
	(-7.841)	(-4.123)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	34,386	32,790
R-squared	0.641	0.672