"Trading" Political Favors:
Evidence from the Impact of the STOCK Act[*]

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Abstract

This paper demonstrates the tacit benefits that accrue to both politicians and the firms to which they are connected through stock ownership. Specifically, we show strong evidence that politicians use private information and political favors for financial gains from stock investments in their personal portfolios, and that these favors have a real impact on the value and economic outcomes of the firms in which they invest. To do so, we assemble the stock ownership and trading data for all members of the U. S. Congress from 2010 to 2013 and use the passage of the Stop Trading on Congressional Knowledge (STOCK) Act in 2012 as an experiment to examine changes in politicians' trading performance as well as in firm value and outcomes. We find that prior to the STOCK Act, members of the Congress earn significant abnormal returns on their stock trades, and an increase in their holdings of a firm's stock positively predicts the firm's likelihood of being acquired as well as its revenue and earnings surprises. After the passage of the Act, politicians exhibit no such informational advantage in trading or outperformance. On the firms' side, we show that companies with politician ownership on average lose 1.4% in value during the three-day window around the Act's passage, while firms not owned by politicians experience no abnormal returns. Correspondingly, after the Act's passage, these politician-owned firms lose a significant amount of procurement contracts and government grants and become less likely to be selected by the government into high-profile trade missions compared to during the pre-Act period. We find that these mutual benefits are particularly pronounced for politicians who are powerful and firms that are politically active.

1.   Introduction

Politicians and firms are closely and intricately linked through various connections, and these links can provide mutual benefits. A stream of recent research has documented the value of political connections from the firms' perspective, but in contrast, much less attention has been devoted to studying the benefits that accrue to politicians. In this paper, we focus on stock ownership as the link that aligns the financial incentives of politicians with firm performance. We show that politicians use private information and political favors for financial gains from stock investments in their personal portfolios, and that these favors have a real impact on the value and economic outcomes of the firms in which they invest.

Although politicians cannot legally trade their power for personal benefits through demonstrable quid pro quo arrangements such as outright bribery and influence peddling, they may exploit their public office to advance their personal interest in an insidious manner that falls in the gray area of the law. In particular, with respect to stock trading, politicians' positions afford them unique advantages through two distinct but related channels.

First, politicians have access to material, nonpublic information derived from their official positions or gained from performing their official responsibilities. Such information may be used to time the market in their personal stock trades, allowing the politicians to generate significant gains or avoid significant losses before the information becomes public. For example, a few months (in some cases weeks) prior to the passage of the Affordable Care Act, Senator John Kerry, Senator Jim Webb, Congressman Vern Buchanan, and many other politicians on Capitol Hill purchased healthcare stocks, and their estimated gains were between 15% and 50% in a short six-month period.[1] The private information available to politicians can be broad-based

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[1] As another example, in September 2008 amid the financial crisis, Senator Dick Durbin, Chairman of the Subcommittee on Financial Services and General Government of the Senate Appropriation Committee, sold investments worth more than $115,000 in the few days after a closed-door meeting with then-Federal Reserve Chairman Ben Bernanke and Treasury Secretary Hank Paulson, with the majority of the selling happening on the day after the meeting. The stock market fell 22% in the following month. Schweizer (2011) discusses these instances in detail, along with many other examples of alleged congressional corruption.

and relevant for an entire industry or even the entire stock market but can also be firm-specific, e.g., the decision to award a substantial government contract to a particular company. Access to such information does not require that the politicians intentionally and actively seeking it. They may obtain access while performing routine official responsibility.

By comparison, the second channel through which politicians can obtain an advantage in stock trading involves them playing an active role and taking actions on behalf of the firms in their stock portfolios: politicians can favor certain groups of firms or individual firms in decisions that have significant economic impact on firm performance, such as the passage of legislations and regulations, the awarding of government contracts, and the selection into government programs. An example can be found in Congressman Tom Petri's dealings with the Oshkosh Corporation, a manufacturer of specialty trucks and military vehicles.[2] In 2009, Representative Petri helped Oshkosh secure a $3 billion contract from the U.S. Army, after the award was challenged by a competitor and then under review by the Government Accountability Office, by sending letters and memos to colleagues and officials on the Hill and at the Pentagon including the Defense Secretary, the Chairman of the House Armed Services Committee, and the Secretary of the Army. Meanwhile, Petri owned a substantial amount of Oshkosh stock, valued at between $250,000 and $500,000, and purchased additional shares as he was making contacts on behalf of the company to resolve the dispute. Oshkosh's stock price rose from $8 per share in early 2009 to $38 per share in February 2010, when its contract with the Army was finalized.

Favoritism towards firms held in politicians' stockholdings can be achieved either directly through politicians' own decision rights or indirectly by influencing the relevant parties in charge, and the benefits ensuing from the favors can help boost the stock prices of the favored firms and increase the likelihood of superior investment performance. Moreover, these acts of favor may afford politicians opportunities to obtain privileged information that can enhance their

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[2] See Slack (2014), a news report in *USA Today*, for a detailed coverage of the Tom Petri example. The news report prompted a review conducted by the Office of Congressional Ethics to investigate whether Representative Petri improperly performed official acts on behalf of companies in which he had financial interests.

trading performance from the firms themselves, either through learning about the firms' businesses in the normal course of offering help or as a returned favor by firms engaging in a tacit quid pro quo exchange.

In this paper, we examine whether politicians exploit such private information and political favors in trading stocks, how well their investments perform as a result, and what impact their actions have on the value and economic outcomes of the firms they hold in their portfolios. To do so, we assemble the stock ownership and trading data for all members of the U.S. Congress from 2010 to 2013 as well as firm-level data on procurement contracts and government grants awarded and trade mission participation. We then use the passage of the Stop Trading on Congressional Knowledge (STOCK) Act in 2012 as an experiment. The STOCK Act is a bill designed to combat congressional insider trading.[3] The Act prohibits members and employees of Congress from using any nonpublic information for personal benefit and requires them to publicly disclose financial transactions (including stock, bonds, and commodities) exceeding $1,000 within 45 days of the transactions. In effect, by explicitly declaring that members of Congress are not exempt from the insider trading prohibitions arising under the security laws, the STOCK Act represents a shock to politicians' incentives to engage in trading on private information. To the extent that the Act heightens monitoring and transparency of congressional activity, it can also have a deterrent effect on politicians' use of political favors for financial gains in their own stock investments. The shock thus offers a relatively clean setting to study the effect of private information and political favors on the trading performance of politicians and the impact of politicians' actions on firms. Exploiting this shock, our empirical strategy examines the changes in politicians' trading performance as well as in firm value and outcomes around the passage of the Act.

We start by assessing the profitability of politicians' trades, both before and after the STOCK Act, using the calendar-time portfolio approach. We find that politicians earn

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[3] We discuss the institutional details of the STOCK Act in Section 2.1.

significant abnormal returns on their stock trades prior to the passage of the Act but exhibit no outperformance after the Act. The buy-minus-sell portfolio for politicians' trades earns a statistically significant Carhart alpha of 9.5% per year before the Act but has only a statistically insignificant alpha of 0.9% per year afterwards. Therefore, the abnormal performance of politicians' stock trades is unlikely to be attributable to any superior skills in stock picking or trading. Rather, this evidence is consistent with politicians having an advantage in stock trading by exploiting private information and political favors prior to the STOCK Act and the Act being effective in deterring such exploitation.

We then explore the politicians' information advantage further by linking changes in their stockholdings to firm performance and activities in an attempt to identify the sources of politicians' superior stock trading performance. Specifically, we use a difference-in-differences approach to examine whether politicians' stock market transactions have predictive power for the mergers and acquisitions activities as well as the revenue and earnings surprises of the firms held in their stock portfolios, again contrasting the pre-Act period with the post-Act period. We find that an increase in politicians' holdings of a firm's stock positively and significantly predicts the firm's likelihood of being acquired and its revenue and earnings surprises prior to the Act. An increase in politicians' ownership in a firm in this quarter increases the firm's likelihood of being acquired in the next quarter by 160% and increases its amount of surprise revenue and surprise earnings in the next quarter by over 100%. After the passage of the STOCK Act, the predictive power of politicians' holdings increase disappears for both revenue/earnings surprises and merger activities. We interpret these results as evidence that politicians have access to nonpublic information related to the firms in which they invest prior to the Act. While some of this information (e.g., information related to revenue or earnings) may be obtained from outside sources when politicians perform their official acts (e.g., knowing the imminent approval of a government contract), it is plausible to believe that some of the privileged information (e.g., information related to mergers) may be from the companies themselves, suggesting a reciprocal exchange of favors between politicians and firms.

Next, we focus on firm-level analysis to assess the value implication and real impact of being politician-owned from the firms' perspective. We first examine the stock market reaction to the passage of the STOCK Act, distinguishing between firms with and without politician ownership. We find that firms that are held in politicians' stock portfolios at the time of announcement on average lose a statistically significant 1.4% in value during the three-day window around the Act's passage, while firms not owned by politicians experience no abnormal returns. It is interesting to note that for the set of firms owned by politicians, the market reacts negatively to the news of an Act that curbs insider trading by the politicians. A reasonable inference is that the market understands that in pursuing personal benefit, politicians give preferential treatment toward the firms held in their stock portfolios. These favors are valuable to firms and are taken into consideration in the market valuation. By reducing politicians' incentives to engage in trading on private information and political favors, the STOCK Act makes it less likely that these politician-owned firms continue to enjoy preferential treatment, hence the drop in value upon announcement.

Accordingly, we investigate the changes in firm outcomes around the Act, focusing on measures that are likely to be subject to influence and preferential treatment by politicians. We examine the changes in procurement contracts, government grants, and participation rate in high-profile government trade missions for firms with and without politician ownership around the Act, again using a difference-in-differences approach. We find that compared to firms without politician ownership, firms owned by politicians experience a substantial decrease in the contract and grant awards from the government and become significantly less likely to be selected by the government into high-profile trade missions. These results are consistent with the market reaction upon announcement of the passage of the Act and indicate that once politicians refrain from exploiting their public office for personal gains in stock trading, the political favors towards the firms in their stock portfolio also diminish, directly affecting the value and outcomes of these companies.

Last, we use cross-sectional comparisons to understand the factors that enhance the benefits that accrue to politicians and the firms held in their stock portfolios. Specifically, we focus on politicians' committee assignments to identify powerful versus non-powerful politicians and on corporate campaign contributions and lobbying activities to identify politically active versus non-active firms. Our findings show that the mutual benefits are particularly pronounced for politicians who are powerful and firms that are politically active. For example, the outperformance in politicians' stock trading prior to the STOCK Act is concentrated among powerful politicians (with a Carhart alpha of 13.5% per year) and among trades in stocks of politically active firms (with a Carhart alpha of 10.7% to 11.9% per year). Similarly, the value loss upon the announcement of the passage of the Act is most striking for firms that are owned by powerful politicians and politician-owned firms that make political donations or spend money lobbying.

Taken together, our results shed light on the tacit benefits that accrue to both politicians and the firms to which they are connected through stock ownership. These findings relate to several strands of literature. First, we contribute to a growing literature that examines the value of political connections (e.g., Fisman, 2001; Faccio, 2006).[4] Most of this research, however, studies such value from the firms' perspective. Benefits accrued to politicians are relatively difficult to observe and quantify and thus have received much less attention, typically restricted to during election events (e.g., job creation by firms to help politicians' election efforts). Our paper demonstrates the personal, financial benefits that politicians are able to reap through the use of private information and political favors in stock trading. Politicians' stock ownership aligns their financial incentives with firm performance, and in the pursuit of personal gains, their actions have a significant real impact on firm value and outcomes. Our findings therefore provide suggestive evidence of a reciprocal relationship between politicians and firms, in spirit in

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[4] See also Faccio et al. (2006), Bertrand et al. (2007), Claessens et al. (2008), Goldman et al. (2008, 2009), Faccio and Parsley (2009), Cooper et al. (2010), Duchin and Sosyura (2012), Tahoun (2014), Acemoglu et al. (2016), and Gao and Huang (2016), among others.

line with the argument developed in Shleifer and Vishny (1994) of favors being traded between firms and politicians.

Our paper is also related to the studies that examine the abnormal returns earned by corporate insiders (e.g., Lakonishok and Lee, 2001; Jeng et al., 2003) or by following legislators' votes (Cohen et al., 2013). With respect to politicians' trading performance, however, there is no consensus whether politicians can outperform the market.[5] Furthermore, it is difficult to distinguish, without a clear setting or methodology, whether the trading performance of politicians is attributable to their actions and information advantages tied to their posts or is simply due to their trading skills, so no attempt has been made in the existing literature in this regard. Our paper uses a relatively clear setting that allows us to examine politicians' trading performance as well as the link between changes in their stockholdings and firm performance both before and after the STOCK Act. The comparison between the two periods yields reasonably convincing evidence that is consistent with politicians having an advantage in stock trading by exploiting private information and political favors prior to the Act.

In addition, our paper adds to the literature that debates the effectiveness of the STOCK Act in curtailing congressional insider trading. Critics of the law argue that the Act is merely a public relations stunt by the government and that it would continue to be difficult to reduce congressional insider trading (e.g., Schroeder, 2014), while the more optimistic scholars view the Act as a step towards the right direction in addressing the issue (e.g., Lekahal, 2012). Empirical studies, therefore, are much needed to assess whether the STOCK Act serves as an effective remedy to the problem (e.g., Brick, 2013; Verret, 2015). Our paper represents a first study to examine changes in politicians' trading performance and activities around the passage of the Act and presents evidence that demonstrates the effectiveness of the STOCK Act from the perspectives of both politicians and firms.

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[5] For example, Ziobrowski et al. (2004) suggest that U.S. senators earn abnormal returns from their stock investments whereas Eggers and Hainmueller (2013) argue that there is little evidence of outperformance in politicians' stockholdings and that they are better off investing in passive index funds.

The remainder of the paper proceeds as follows. Section 2 provides the institutional details of the STOCK Act and discusses the data and the construction of variables used in the analysis. Section 3 focuses the trading performance of politicians, and Section 4 examines firm value and outcomes. Section 5 presents cross-sectional analysis. Section 6 concludes.

2. Data and variables

2.1. The STOCK Act

To combat politician insider trading, the Stop Trading on Congressional Knowledge (STOCK) Act prohibits the members and employees of the legislative branch, the executive branch, and the judiciary branch of the government from using "any nonpublic information derived from the individual's position… or gained from performance of the individual's duties" for personal benefit.[6]

Politicians have always been subject to the same insider trading laws such as the Security and Exchange Act of 1934 as everyone else. However, it's unclear to whom politicians owe "fiduciary duties", and it's hard to define "non-public, material" information in a political context, whereas both are clear for corporations. It is, therefore, difficult to hold politicians liable for insider trading under the traditional "classical theory" or "misappropriations theory", which are the two common methods determining insider trading for corporate employees (Bainbridge, 2010).

Additionally, no regulations exist on barring politicians from owning shares in companies that are regulated by their committees. Rule 37(4) of the Senate Ethics Manual prohibits politicians from knowingly using their official positions to further their personal financial interests. However, this provision acknowledges that "[l]egislation may have a significant

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[6] The full Act can be accessed here: https://www.gpo.gov/fdsys/pkg/PLAW-112publ105/pdf/PLAW-112publ105.pdf (last retrieved: August 15, 2019).

financial effect on a senator because his holdings are involved," and states that the prohibitions would not apply as long as "the legislation has a broad, general impact on his state or the nation." Similarly, the House Ethics Manual Rule 23(3) states that "[m]embers and employees need not divest themselves of assets upon assuming their positions, nor must members disqualify themselves from voting on issues that affect their personal financial interests." Instead, this provision states that "public financial disclosure provides a means of monitoring and deterring conflicts," which is immediately followed by "[n]o federal statute, regulation, or rule of the House absolutely prohibits a member or House employee from holding assets that might conflict with or influence the performance of official duties" (Nagy, 2013).

Last but not least, the Congress funds the Securities and Exchange Commission (SEC), which makes it harder to open investigations against politicians. The then-Director of Enforcement at the SEC, Robert Khuzami, testified in Congressional hearings that insider trading laws had not been applied to the Congress. Khuzami stated that "[t]here does not appear to be any case law that addresses the duty of a member [of Congress] with respect to trading on the basis of information the member learns in an official capacity".

Members of the Congress have been trying to introduce legislations to address the gray area of congressional insider trading. The STOCK Act was first introduced in 2006 by two representatives in the 109th Congress. It was then reintroduced in 2007 in the 110th Congress and again in 2009 in the 111th Congress. Each time it received little attention or support from the politicians and died in committee with a small number of cosponsors.

In March 2011, the Act was introduced yet again in the 112th Congress. Just like in previous years, it had a limited number of cosponsors: only 9 out of 435 House Representatives signed on the draft. In November 2011, the CBS program *60 Minutes* reported several cases of alleged insider trading by members of Congress, which immediately went viral. During the five days after the show, the STOCK Act gained an additional 84 cosponsors from the House. Subsequently, two more versions of the Act were filed in the Senate. None of these bills, however, made it to a floor vote in the Congress. In his State of the Union Address on January

24, 2012, President Barack Obama remarked, "Send me a bill that bans insider trading by members of Congress; I will sign it tomorrow".[7] The version of the Act that eventually became the law was introduced in the Senate on January 26, 2012. It passed in the Senate by a vote of 96-3 on February 2, 2012 and passed in the House by a vote of 417-2 a week later. The STOCK Act was signed into law on April 4, 2012.

In our analysis, we use February 2, 2012, the date when the STOCK Act passed in the Senate, as the event date. Although the Act had more solid support than in previous years, there was still policy uncertainty regarding its fate prior to the Senate vote results: the draft bill still had a chance of being thrown out just like in the series of past defeats.[8] By the time it passed in the Senate with wide support, the uncertainty was largely, if not entirely, resolved. The Act was sure to be on its way to become the law, and indeed it passed in the House swiftly and almost unanimously.

In summary, the STOCK Act prohibits politicians from profiting from nonpublic, material information obtained at work. The Act requires politicians to file and disclose publicly any financial transactions of stocks, bonds, commodities futures, and other securities that exceed $1,000 within 45 days. By making explicit that members of Congress are not exempt from the insider trading prohibitions arising under the security laws, the STOCK Act aims to curtail congressional insider trading and enhance transparency and monitoring of congressional activity. For the purpose of our study, it represents a shock to politicians' incentives to engage in trading on private information and can also have a deterrent effect on politicians' use of political favors for financial gains in their own stock investments.

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[7] The full 2012 State of the Union Address can be accessed here: https://www.whitehouse.gov/the-press-office/2012/01/24/remarks-president-state-union-address (last retrieved: August 15, 2019).

[8] After the bill was introduced in the Senate on January 26, 2012, lawmakers were trying to attach a wide array of pet provisions and amendments, which greatly increased the uncertainty of the legislation being delayed or even derailed. For example, see https://www.wsj.com/articles/SB10001424052970203920204577195443528859730 (last retrieved: August 15, 2019).

2.2. *Politicians' stock ownership*

Politicians' stock ownership information, including both holdings and transactions, is vital to our analysis. The Ethics in Government Act of 1978 requires a mandatory annual public disclosure of financial records by government officials, including earned and unearned incomes, assets (e.g., stocks, retirement funds, and real estate), liabilities, gifts received, reimbursed traveling costs, etc. In particular, any assets with a balance greater than $1,000 in value or producing more than $200 in income must be reported. Furthermore, any transactions involving more than $1,000 in value must be reported together with the transaction dates.

The Center for Responsive Politics (CRP) collects the financial disclosure reports from the Senate Office of Public Records for the U.S. Senate and the Office of the Clerk of the House for the U.S. House of Representatives. We obtain from the CRP financial disclosure reports for all Senate and House members in the four years around the STOCK Act, i.e., from 2010 to 2013. We then manually classify and extract all equity transactions. For each politician, we collect year-end stock ownership value as well as equity transaction data including whether the transaction is a buy or sell, the transaction date, and the transaction value. Politicians are not required to report the exact dollar amount of their holdings and transactions. Instead, they must check a box representing a range.[9] The CRP undertakes additional research efforts to find the exact value when possible. If the exact amount is not available, we use the midpoint value of the reported bracket in the analysis.[10] We then hand-match each equity transaction to CRSP to get stock prices. In total, we have 14,791 equity transactions made by politicians in the sample years, with an average transaction value of $18,899.

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[9] Ownership and transaction values are reported in the financial disclosure reports in the following brackets: $1–$1,000, $1,001–$15,000, $15,001–$50,000, $50,001–$100,000, $100,001–$250,000, $250,001–$500,000, $500,001–$1,000,000, $1,000,001–$5,000,000, $5,000,001–$25,000,000, $25,000,001–$50,000,000, and over $50,000,000.

[10] Our results are robust to using the lower bound of each range instead of the midpoint.

We also construct politicians' stock ownership information as of February 2nd, 2012, our event date. To do so, we start with the 2011 year-end stock ownership balances from the 2011 financial disclosure reports. We then update the information using transactions reported in the 2012 year-end reports taking into consideration the stocks bought and sold by all politicians from January 1st, 2012 to February 2nd, 2012. On average, 11% of the firms in our sample are owned by at least one politician as of February 2nd, 2012.

2.3. *Firm-level data*

2.3.1. *Procurement contracts and government grants*

We collect company-level procurement contract data from the Federal Procurement Data System – Next Generation (FPDS-NG). FPDS-NG reports federal awards of various types of procurement contracts from different government agencies with contract value of $3,000 or more. Data on government grants are obtained from the Award Submission Portal, which is managed by the Department of the Treasury's Bureau of the Fiscal Service and reports all grant and financial assistance awards of more than $25,000. We gather data covering 2010 to 2014, which spans two years before and after our event date. More than one million contracts and grants were awarded during this period. We first aggregate the contract amount and grant amount by recipient and year and then hand-match the recipient firms to the Compustat and CRSP databases using company names.

2.3.2. *Trade mission*

The U.S. Department of Commerce organizes trade missions. Planned missions are announced on export.gov and other related outlets, with information on the mission goal, destination, industries involved, costs, and application procedures, and the Department of

Commerce chooses the mission participants from the applicants. We made a request to the Department of Commerce to obtain a list of high-profile trade missions in the four years (2010-2014) centering on our event date. The Department of Commerce defines high-profile trade missions as missions led by high-rank officials (with ranks of deputy secretary of the Department or higher). In fact, many of such missions are led by the Secretary of the Department of Commerce, the Vice President, or the President. These high-profile trade missions are the top-level trade missions that afford participating firms opportunities to interact with key government officials and have high potentials of bringing participants significant amount of businesses.

The list of trade missions received from the Department of Commerce contains mission names, dates, and destinations of 63 trade missions, with no participants' information provided.[11] We then followed up with the contact persons listed on the mission announcements to request the participant lists for these missions. Through our inquiries, we learned that for some missions, participants' information is considered classified and cannot be made publicly available. In the end, we were able to obtain the names of the participants for 39 trade missions that took place in the four years centering on our event date. We then hand-match the participants' names to Compustat using company name as the identifier.

2.3.3. Firm financials

Firm financial data and stock return data are obtained from the Compustat and CRSP databases, respectively. We use I/B/E/S for data on quarterly earnings and analyst earnings forecasts and the Securities Data Company (SDC) U.S. Mergers and Acquisitions Database for data on mergers and acquisitions. We exclude firms in the financial industry and the regulated utilities industry but otherwise examine all firms that are listed on the NYSE, NASDAQ, and Amex stock exchanges.

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[11] Educational trade missions (in which the participants are mainly public universities) and publicly available trade missions (which the firms can simply sign up on their own) are excluded from the list.

The set of firm-level variables we use to control for firm characteristics include firm size, Q, leverage, asset tangibility, cash holdings, and cash flow. We use the natural logarithm of the total book value of assets as a proxy for firm size. Q is defined as the book value of assets plus the market value of equity minus the sum of the book value of equity and deferred taxes all over assets. Leverage is defined as the sum of short-term debt and long-term debt scaled by total assets. Asset tangibility is measured as property, plant, and equipment scaled by total assets. Cash holding is defined as cash and short-term investments divided by total assets. Cash flow is the sum of net income before extraordinary items and depreciation and amortization expenses divided by total assets. All variables are winsorized at the 1st and 99th percentiles to reduce the effect of outliers. Table 1 presents the summary statistics for our sample.

[Place Table 1 about here]

3. Politicians' stock trading performance

In this section, we examine politicians' stock trading performance, comparing the periods before and after the passage of the STOCK Act. We present evidence that prior to the STOCK Act, politicians have an advantage in their stock market transactions that cannot be attributed to skills in stock-picking or trading. We first use the calendar-time portfolio approach to mimic politicians' trades and demonstrate that politicians earn significant abnormal returns in their stock transactions. We then show that an increase in politicians' holdings of a firm's stock has strong predictive power for the firm's likelihood of being acquired as well as its revenue and earnings surprises. We show that all these advantages disappear in the post-Act period.

3.1. Calendar-time portfolio approach

To assess the performance of politicians' stock trades, we use the calendar-time portfolio methodology (Fama, 1998; Mitchell and Stafford, 2000). If politicians can obtain valuable

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private information and provide political favors through the positions they hold and the actions they take on behalf of firms, then a portfolio consisting of stocks purchased by politicians should outperform a portfolio of stocks sold by politicians. We therefore construct buy and sell portfolios that mimic the buy and sell decisions made by politicians and estimate the abnormal returns (or "Alpha") for the buy-minus-sell portfolio. Since the average holding period for politicians in our sample is approximately six months, we examine portfolios that hold stocks for six months following a buy or sell transaction.[12]

Specifically, we follow Seasholes and Zhu (2010) and form transactions-based calendar-time portfolios as follows. Stocks purchased (sold) on day t are added to the buy (sell) portfolio at the end of the day $t+1$ and held for 6 months. We examine both equal-weighted and value-weighted portfolios. In the equal-weighted portfolio, the initial value of each position in the portfolio is equal to $1. In the value-weighted portfolio, the initial value of each position is equal to the dollar value of the transaction actually conducted by the politicians in our data set. Both the equal-weighted and value-weighted calendar-time portfolios calculate the weighted average return of stocks in the portfolio each day, and the relative weight of each position in the portfolio changes as stock prices change. We calculate monthly buy and sell portfolio returns separately and construct the buy-minus-sell portfolio by taking a long position in the buy portfolio and a short position in the sell portfolio. We then calculate Alpha, which measures the average monthly abnormal return, from calendar-time regressions of the buy-minus-sell portfolio returns using the CAPM, the Fama-French three-factor model, and the Fama-French-Carhart four factor model, respectively.

Table 2 presents the transactions-based calendar-time portfolio results for politicians' stock trades both before and after the passage of the STOCK Act.[13] The results in Columns 1

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[12] All results are robust to using an alternative holding period of 12 months.

[13] The six months of transactions leading up to the Act are excluded to ensure that the holding periods for all transactions in the pre-Act sample end before the passage of the Act. All results are robust to including these six months of transactions in the pre-Act sample.

and 2 show that prior to the STOCK Act, the buy-minus-sell portfolio has a statistically significant monthly abnormal return of 42 to 92 basis points. This abnormal return is also economically meaningful. For example, the value-weighted Carhart alpha using the four-factor model translates to an abnormal return of 9.5% per year. This means that politicians' stock trades perform significantly better than those by managers of actively managed mutual funds, which on average generate zero or negative alphas (Fama and French, 2010). Politicians' superior performance in stock trading, however, no longer exists in the post-Act period. The results in Columns 3 (equal-weighted) and Column 4 (value-weighted) show that the abnormal returns decrease drastically after the passage of the STOCK Act and are neither statistically nor economically significant.[14] The four-factor alpha in the post-Act period, for example, is only 0.9% per year and not statistically different from zero. The superior performance of politicians' trades before the STOCK Act and its disappearance thereafter indicate that the abnormal returns are unlikely to be attributable to stock-picking or trading skills. Instead, the evidence is consistent with politicians having an unfair advantage in trading stocks before the STOCK Act and the Act being effective in deterring politicians from exploiting such advantage for personal financial gains from stock investments.

[Place Table 2 about here]

3.2.   Linking changes in politicians' stockholdings to firm activities

In this subsection, we explore politicians' information advantage further by linking changes in their stockholdings to firm activities and performance. We conduct tests that attempt to identify the sources of politicians' superior stock trading performance by focusing on settings that are documented in the insider trading literature to be major information-based sources of insider profits. Specifically, we examine whether changes in politicians' stockholdings have

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[14] For the post-Act period, we construct the portfolio starting the day after the passage of the Act. Our results are robust to starting three, five, or ten days after the passage of the Act.

predictive power for the mergers and acquisitions activities as well as the revenue and earnings surprises of the firms held in their stock portfolios, again contrasting the periods before and after the passage of the STOCK Act.

3.2.1. Firms' probability of being targeted in mergers and acquisitions

Numerous studies on mergers and acquisitions have shown that target firms experience substantial increases in stock price upon acquisition announcement.   Learning about an impending merger in advance of its planned announcement and trading on this knowledge, therefore, is a prime way for insiders possessing this nonpublic information to generate significant abnormal returns (e.g., Keown and Pinkerton, 1981).   We investigate whether politicians exploit the same mechanism in their stock trading by examining the timing of politicians' stockholding increase and firms' merger and acquisitions activities.

To do so, we construct an indicator variable, *Increase in stockholdings in the previous three months*, which equals one if any politician increases his or her holdings in a firm's stock in the past three months (months *t*-2, *t*-1, and *t*) and equals zero otherwise.   We also define a dummy variable, *After*, which takes the value of one during the two years succeeding the passage of the Act and zero otherwise.   For the dependent variable, we construct a dummy variable indicating whether the firm becomes a merger target in the upcoming quarter after the stockholding change.   We then regress the dependent variable on the indicator variable for politicians' stockholding increase, the *After* dummy variable, and the interaction between the two, along with a host of firm-level controls and fixed effects.

[Place Table 3 about here]

We present the results in Table 3, in which we examine whether an increase in politicians' stockholdings in the previous three months could predict firms' likelihood of being targeted in mergers in the next quarter. We control for industry and year fixed effects in Column 1, replace industry fixed effects with firm fixed effects in Column 2, and further add industry times year

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fixed effects in Column 3. We find that, consistent across all specifications, an increase in politicians' holdings of a firm's stock positively and significantly predicts the firm's subsequent likelihood of being acquired prior to the passage of the STOCK Act. The magnitude of this effect is also economically meaningful. The unconditional mean likelihood of being targeted in the next quarter is 0.015. After politicians increase their holdings in a firm's stock in the past three months, this likelihood increases by 120%-167% in the next quarter relative to the sample mean.[15] In contrast, we find no predictive power from politicians' stockholding increase for firms' merger target probability in any specification after the passage of the STOCK Act. As indicated by the negative and significant estimates on the interaction term, *Increase in stockholdings*after*, the predictive power of politicians' stockholding increases completely vanishes in the post-Act period: an increase in politicians' stockholdings no longer has any effect on firms' probability of becoming merger targets.

Together, these results indicate that politicians have private information that enables them to time merger announcements in their stock trades prior to the Act. Politicians increase their stockholdings in target companies shortly prior to acquisition announcements in a consistent manner before the STOCK Act, whereas during the post-Act period, an increase in politicians' stockholdings can no longer predict future merger activities. Since acquisition announcements are typically unexpected events, only informed parties have the ability to time mergers in such a systematic way. Although some mergers appear at Congressional hearings, most of them are likely not known to politicians through their official positions.[16] We therefore interpret these results as evidence that it is plausible that some of the nonpublic information may have come to

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[15] In unreported results, we also examine the likelihood of firms becoming merger targets at the monthly frequency. We find that politicians' stockholding increases have a positive relationship with firms becoming merger targets in month $t+1$ through month $t+6$. The magnitude of the effect decreases monotonically from month $t+1$ to month $t+6$. The effect is statistically significant at the 10% level or better for month $t+1$ through month $t+3$ but insignificant for the upcoming fourth, fifth, and sixth months. These results are available upon request.

[16] Only certain mergers require premerger reviews by the Federal Trade Commission (FTC). The ones that need Congressional hearings are extremely high-stake and happen rarely (see https://www.ftc.gov/enforcement/merger-review, last retrieved: August 15, 2019).

the politicians from the companies themselves, which implies the existence of a reciprocal exchange of favors between politicians and firms.

3.2.2. *Revenue and earnings surprises*

Another major mechanism that is identified in the literature to be responsible for insider profits is trading based on future earnings information (e.g., Beneish and Vargus, 2002; Aboody, Hughes, and Liu, 2005). In this subsection, we examine the timing of politicians' stockholding increase and firms' revenue and earnings surprises to see whether politicians exhibit an informational advantage in trading ahead of firms' revenue or earnings surprises.

We follow a similar approach as before and use the same key independent variable, *Increase in stockholdings in the previous three months*, which equals one if any politician increases his or her stockholdings in the underlying company in the previous three months and zero otherwise. We then calculate the measure for revenue surprise following Jegadeesh and Livnat (2006). Specifically, this methodology assumes that quarterly revenue follows a seasonal random walk with drift to calculate the revenue expectation using data from the past four to twelve quarters. The revenue surprise is proxied by the difference between the current quarter revenue and the expected revenue, scaled by the standard deviation of revenue growth. We also calculate the earnings surprise measure following DellaVigna and Pollet (2009). Earnings surprise is defined as the difference between actual quarterly earnings and the median analyst forecast, both reported by I/B/E/S, scaled by the stock price five days prior to the earnings announcement. We present the regression results for firms' revenue and earnings surprises in Table 4.

[Place Table 4 about here]

The dependent variables are revenue surprises (Columns 1 through 3) and earnings surprises (Columns 4 through 6) in the next quarter. We examine whether an increase in politicians' stockholdings in the previous three months can predict revenue and earnings

surprises in the next quarter, again contrasting the pre-Act period with the post-Act period. We find that, prior to the passage of the STOCK Act, an increase in politicians' holdings in a firm's stock in the last quarter is positively related to the firm's revenue and earnings surprises in the next quarter. This relation is statistically significant at the 1% level across all specifications for revenue surprises. For earnings surprises, the estimate on the *Increase in stockholdings* dummy is significant at the 10% level in the specification with industry and year fixed effects and at the 15% level when industry effects are replaced by firm fixed effects or industry*year fixed effects, with similar magnitudes across specifications. These effects are economically significant: given that the unconditional means of revenue surprise and earnings surprise are 0.414 and 0.018, respectively, we document an increase of 100% or more over the mean in both revenue and earnings surprises after politicians increase their holdings of the firm's stock. Turning to the period after the STOCK Act, we see that the estimates on the interaction term, *Increase in stockholdings*after*, are consistently negative and significant for both revenue and earnings surprises. This indicates that, similar to our findings on merger likelihood, in the post-Act period, politicians no longer seem to have the ability to time their trades to consistently increase their stockholdings ahead of firm revenue or earnings surprises.

Taken together, the results from our analysis on politicians' trading performance as well as their stockholding changes suggest that politicians have an informational advantage over the average trader and, as a result, are able to profit significantly in their stock market transactions before the passage of the STOCK Act. Subsequent to the Act, such advantage disappears, along with politicians' superior stock trading performance. The evidence is consistent with a deterrent effect of the STOCK Act in limiting politicians' abilities and incentives to use private information for financial gains in their personal investments.

4.   Firm value and outcomes

So far, our focus has been on politicians. In this section, we carry out firm-level analysis to examine the value impact and real effects of being owned by politicians from the firms' perspective. First, we examine the stock market reactions around the passage of the STOCK Act, distinguishing between firms with and without politician ownership. Then we use a difference-in-differences approach to investigate changes in firm outcomes around the Act, focusing on measures that are likely to be subject to influence and preferential treatment by politicians, including procurement contracts, government grants, and participation rate in high-profile government trade missions.

4.1.   Stock market reaction around the passage of the STOCK Act

To gauge the market's reaction, we calculate the cumulative abnormal returns (CARs) around the passage of the Act following the standard event study methodology (Brown and Warner, 1985). We estimate the market model abnormal returns over the [-205, -6] day interval and calculate CARs for the three-day event window ([-1, +1]), the five-day event window ([-2, +2]), and the seven-day event window ([-3, +3]) around the passage of the Act. We report the univariate CAR results in Table 5, separately for firm with and without politician ownership. Firms that are held in politicians' stock portfolios at the time of announcement on average experience a 1.4% drop in value during the three-day window around the passage of the Act. This effect is statistically significant at the 1% level. For the five-day and seven-day window around the Act's passage, the value loss is 1.7% and 2.7%, respectively, both statistically significant at the 1% level. In contrast, firms without politician ownership on average show no significant CARs around the passage of the STOCK Act in any of the three event windows. The difference in CAR between the two groups of firms is statistically significant across all event windows.

[Place Table 5 about here]

We next examine the relationship between politicians' stock ownership and the stock market reaction to the passage of the STOCK Act using multivariate ordinary least squares (OLS) regressions. Specifically, we regress the three-day CAR on politician stock ownership and a set of firm-level controls including firm size, Q, leverage, asset tangibility, cash holding, and cash flow.[17]

We report the results in Table 6. In Columns 1 and 2 of Table 6, the key independent variable is the politician stock ownership dummy, which equals one if at least one politician owns stock in the underlying company and zero if the company's stock is not owned by any politicians. In Column1, we include firm-level controls while Column 2 adds industry fixed effects. We find that, everything else equal, the average three-day abnormal return for firms with politician ownership is 1.3% lower than for firms without politician ownership, and this difference is significant at the 1% level. In Columns 3 and 4, we use the politician stock ownership amount as the key independent variable, which is a continuous measure defined as the natural logarithm of the aggregated dollar amount of stock owned by all politicians in the underlying company. We include firm-level controls in Column 3 and further add industry fixed effects in Column 4. We find similar results in both specifications. A one-standard-deviation increase in log politician stock ownership amount decreases the three-day CAR by 1.56 percentage points. The effect is significant both economically and statistically.

[Place Table 6 about here]

The event study gives us a first glance into the effects of the STOCK Act on firm value. Compared to firms not owned by politicians, firms in politicians' stockholdings lose more than 1% in value upon announcement of the Act's passage. In other words, for the set of firms owned by politicians, the market reacts negatively to the news of an Act that curbs Congressional insider trading. A plausible interpretation is that the market understands that politicians give preferential treatment to firms held in their stock portfolios while pursuing personal financial gains. These

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[17] Our results are robust to using the five-day or seven-day CAR as the dependent variable.

favors are valuable to firms and reflected in the market valuation. The market also recognizes that politicians are less likely to continue to engage in trading on private information and political favors when the Act becomes law. Consequently, these firms will be less likely to continue enjoying such treatment after the Act, hence the drop in value upon announcement.

4.2.   *The potential channels*

To gain further insights into the channels through which the Act impacts the value of politician-owned firms, we examine the changes in firm outcomes around the Act. We focus on three measures that are likely to be subject to influence and preferential treatment by politicians. Our first measure is procurement contracts. When government agencies need goods or services, they post Request for Proposals on the Federal Business Opportunities website. Companies submit their offers and proposals for agency evaluation. The system is designed such that government contracts are granted based on the merits of the proposals. However, people with inside knowledge argue that "…relationships have become infinitely more important than a contractor being able to show that they are the best person for the job..."[18] As a result, procurement contracts are commonly used as an important outcome measure for firms' political activities (e.g., Goldman et al., 2013; Brogaard et al., 2015).   The second measure is government grants. Government grants are basically "free" money to firms and have a direct impact on firm value. Unlike procurement contracts, the grant recipients are not required to render any services to the government. Our third outcome variable measures firms' participation in high-profile trade missions.   These trade missions are top-level governmental interactions with other sovereign governments. Generally, the missions are organized in order to introduce a new industry or service to the destination countries, and the participating firms would normally be the first ones conducting such business in those countries. As a result, participating firms enjoy

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[18] For more details, see http://www.govexec.com/magazine/features/2005/12/schmooze-or-lose/20778/ (last retrieved: August 15, 2019/).

tremendous first-mover advantages and monopolistic market power for an extended period (Spence, 1981). In addition, these missions allow firm executives to develop strong personal relationships among themselves as well as with key government officials leading each mission. The relationship building, both at the business level and at the personal level, is beneficial for firms' conducting business in the future.

We use the difference-in-differences approach to investigate changes in these measures surrounding the Act for firms with and without politician ownership. Specifically, we examine the natural logarithm of the dollar amount received in procurement contracts, the natural logarithm of the dollar amount received in government grants, and an indicator variable for trade mission participation as the dependent variables. We again define the two years succeeding the passage of the Act as the after period (captured by the dummy variable *After*) and the two years preceding the Act as the before period. We regress the dependent variables, respectively, on politician stock ownership, the *After* dummy, and the interaction term between the two, along with a set of control variables and fixed effects.

[Place Table 7 about here]

We report the results in Table 7. In Columns 1 to 3, politician stock ownership is a dummy variable. The natural logarithm of dollar amount awarded in procurement contracts is the dependent variable in Column 1, the natural logarithm of dollar amount received in government grants is the dependent variable in Column 2, and an indicator variable for trade mission participation serves as the dependent variable in Column 3. We find that prior to the passage of the STOCK Act, firms owned by politicians receive significantly higher amounts of procurement contracts and government grants and are much more likely to be selected by the government into high-profile trade missions than firms without politician ownership. In the post-Act period, however, these politician-owned firms experience drastic decreases in government contracts and grants, both in absolute terms and relative to firms not owned by politicians. Compared to firms without politician ownership, the decline is 2.6 times as large in contracts and 7.6 times as large in grants for firms with politician ownership after the passage of the Act.

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Similarly, politician-owned firms also become significantly less likely to participate in high-profile trade missions after the Act. In Columns 4 to 6, we use the natural logarithm of politicians' stock ownership amount as the key independent variable and find qualitatively similar results.

Overall, these results are consistent with the market reaction upon the passage of the STOCK Act and indicate that the political favors towards the firms held in politicians' stock portfolios diminish once politicians refrain from exploiting their public office for personal gains in stock trading. The value and economic outcomes of these firms are directly affected as a result.

5.   Cross-sectional analysis

To better understand the interplay between political favoritism and private information as well as their effects on politicians' stock trading performance and firm outcomes, we investigate characteristics of politicians and firms that could amplify our results. Specifically, we focus on politicians' committee assignments to identify powerful versus non-powerful politicians and on corporate campaign contributions and lobbying activities to identify politically active versus non-active firms.

Politicians on important Congressional committees have more power than the others because they have access to a wider range of government resources (Cohen et al., 2011). In turn, powerful politicians are more likely to gain material, nonpublic information while performing their Congressional duties. These politicians also have abundant favors at their disposal for the firms of their choice. Consequently, we expect our results on politicians' trading performance prior to the Act to be particularly strong for powerful politicians. Similarly, the value loss after the passage of the Act should be particularly pronounced for firms owned by powerful politicians. We classify powerful Congressional committees as the top five committees in each chamber defined by Edwards and Stewart (2006). For the Senate, these committees include Finance,

Veterans Affairs, Appropriations, Rules and Administration, and Armed Services. For the House, these committees are Ways and Means, Appropriations, Energy and Commerce, Rules, and Foreign Affairs.

We also identify politically active versus non-active firms. Firms that are politically active enjoy better outcomes than peers not politically active (Krozner and Stratman, 1998). We examine two types of political activity. The first concerns campaign contributions. Campaign contributions are becoming an increasingly important form of corporate political capital (Mian et al., 2010). Companies must voluntarily set up political action committees (PACs) to donate to the politicians they support. Since firms with PACs spend the effort to advocate for certain politicians and to raise campaign funds for them, those firms are more likely to be politically active. The other measure we study is lobbying activities. The lobbying industry is a multi-billion-dollar business that connects corporations to politicians (Bertrand et al., 2014). It is another important and effective way for firms to be actively involved in the policy-making process. We regard firms that make campaign contributions and firms that spend money lobbying as politically active firms. Politicians may be able to obtain more private information from and be willing to direct more political favors to these firms. As a result, these firms may be central to politicians' superior trading performance prior to the STOCK Act and experience greater value loss after the passage of the Act.

In the next two subsections, we re-examine politicians' trading performance and firm value loss upon announcement using cross-sectional comparisons along these two dimensions.

5.1. *Politicians' trading performance*

We carry out calendar-time portfolio approaches as in Subsection 3.1 by following the same test methodology. We first study powerful politicians' stock trading. We categorize politicians' stock market transactions into two groups: trades made by powerful politicians and trades made by politicians who are not powerful. We report the results in Panel A of Table 8.

We find that the superior performance in politicians' stock trading prior to the STOCK Act is concentrated among powerful politicians. For example, the Carhart alpha for powerful politicians amounts to 13.5% per year, much higher than for the full sample. The outperformance no longer exists after the Act. In contrast, trades made by non-powerful politicians do not earn significant abnormal returns, either before or after the Act.

[Place Table 8 about here]

In Panels B and C, we turn to politically active versus non-active firms. We split our sample into firms that donate to political campaigns and firms that do not make political contributions in Panel B and firms that lobby and firms that do not lobby in Panel C. We construct hedging portfolios based on politicians' stock trades for firms in each category. Our results show that politicians' investments in firms that donate to political campaigns and firms that lobby yield positive and statistically significant abnormal returns before the passage of the STOCK Act. Hedging portfolios investing in firms that are not politically active, however, in general yield positive but insignificant returns before the Act. In the period after the Act, none of the portfolios outperforms the market.

5.2.   Firm value

To explore the effects of politicians' power and firms' political participation on firm value loss after the passage of the STOCK Act, we reexamine the three-day CARs upon announcement using OLS regressions, distinguishing between powerful and non-powerful politicians and between politically active and non-active firms. We present the results in Table 9.

[Place Table 9 about here]

In Column 1 of Table 9, we examine the effect of stock ownership by powerful politicians. We define *Powerful politician stock ownership* as a dummy variable that equals one if at least one politician owning the stock serves on a powerful Congressional committee and zero otherwise. We add the *Powerful politician stock ownership* dummy to the CAR regression

along with the politician stock ownership dummy. The *Powerful politician stock ownership* dummy, therefore, measures the difference in CAR between firms owned by powerful politicians and firms owned by non-powerful politicians. We find a negative and statistically significant coefficient on the *Powerful politician stock ownership* dummy. The total impact of stock ownership by powerful politicians on firm value is a whopping -1.6% during the three-day window around the passage of the Act, more than doubling the impact of non-powerful politician ownership (-0.7%).

In Columns 2 and 3, we include the *Political contribution* dummy and the *Lobby* dummy, along with their interactions with the *After* dummy, respectively. We find that politician-owned firms that make political donations or spend money lobbying lose significantly more in value compared to politician-owned firms that are not politically active. Consistent with the cross-sectional results on politicians' trading performance, the value loss upon the announcement of the passage of the Act is most striking for firms that are owned by powerful politicians and politician-owned firms that are politically active.

6. Conclusion

In this paper, we investigate the linkage between politicians and firms through stock ownership using the Stop Trading on Congressional Knowledge (STOCK) Act as an experiment. Politicians may give preferential treatment to the firms held in their stockholdings directly via politicians' own decision rights or indirectly by influencing the relevant parties in charge. These political favors help boost the economic outcomes of the favored firms and thus increase the likelihood of politicians' superior investment performance. Moreover, politicians have opportunities to obtain privileged information from their official duties and from the firms themselves that can enhance their trading performance. These advantages can lead to superior trading performance by politicians, and their actions in turn have real impact on firm performance and outcomes.

We find that prior to the STOCK Act, members of the Congress earn significant abnormal returns on their stock trades. We also show that an increase in politicians' stockholdings of a firm's stock positively predicts the firm's likelihood of being acquired as well as its revenue and earnings surprises. After the passage of the Act, politicians exhibit no such informational advantage in trading or outperformance. On the firms' side, we show that companies with politician ownership on average lose 1.4% in value during the three-day window around the Act's passage, while firms not owned by politicians experience no abnormal returns. Correspondingly, after the Act's passage, these politician-owned firms receive reduced amounts of procurement contracts and government grants and become less likely to be selected by the government into high-profile trade missions compared to the period before the Act. We document that these mutual benefits are particularly pronounced for politicians who sit on powerful Congressional committees, firms that actively donate to political action committees, and firms that lobby.

Overall, our results shed light on the tacit benefits that accrue to both politicians and the firms to which they are connected through stock ownership. In addition, the evidence from our study suggests that the STOCK Act is effective in deterring politicians from exploiting their official positions for personal financial gains.

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Table 1
Summary statistics

This table presents summary statistics for our sample. Stock transactions include politician buy and sell transactions from 2010 to 2013. Total assets are the book value of assets. *Q* is defined as the book value of assets plus the market value of equity minus the sum of the book value of equity and deferred taxes all over assets. Leverage is defined as the sum of long-term debt and debt in current liabilities scaled by total assets. Asset tangibility is defined as property, plant, and equipment scaled by total assets. Cash holding is defined as cash and short-term investments scaled by total assets. Cash flow is the sum of net income before extraordinary items and depreciation and amortization expenses scaled by total assets. Politician stock ownership dummy is a dummy variable that equals one if at least one politician owns stock in the underlying company and zero otherwise. Politician stock ownership amount aggregates the amount owned by all politicians in the underlying company. Procurement contracts and government grants are the dollar amount of government contracts and grants awarded, respectively. Trade mission participation is a dummy variable that equals one if the firm takes part in a government high-profile trade mission and zero otherwise.

Variable Name	Mean	Standard deviation	N
Stock transactions (in thousand $)	18.899	36.932	14,791
Total assets (in million $)	5.655	17.187	3,499
Q	1.776	1.444	3,499
Leverage	0.206	0.209	3,499
Asset tangibility	0.280	0.259	3,499
Cash holding	0.215	0.232	3,499
Cash flow	0.060	0.231	3,499
Politician stock ownership dummy	0.111	0.314	3,499
Politician stock ownership amount (in thousand $)	12.407	81.328	3,499
Procurement contracts (in million $)	3.338	18.000	12,960
Government grants (in thousand $)	2.052	20.098	12.960
Trade mission participation	0.009	0.097	12,960

Table 2

Politicians' stock trading performance: buy-minus-sell calendar-time portfolios

    This table reports abnormal returns of buy-minus-sell calendar-time portfolios. Equal- and value-weighted buy and sell portfolios are formed based on politicians' stock market transactions. The buy-minus-sell portfolio is constructed by taking a long position in the buy portfolio and a short position in the sell portfolio. Stocks are held in the portfolios for six months. Monthly abnormal returns (Alphas) are calculated from calendar-time regressions of the buy-minus-sell portfolio returns using the CAPM, the Fama-French three-factor model, and the Fama-French-Carhart four-factor model, respectively. Newey-West standard errors with five lags and robust to heteroskedasticity and serial correlation are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

| | Before the STOCK Act | | After the STOCK Act | |
| | Equal-weighted | Value-weighted | Equal-weighted | Value-weighted |
	(1)	(2)	(3)	(4)
Raw return	0.283	0.879***	-0.106	-0.189
	(0.344)	(0.261)	(0.182)	(0.151)
CAPM Alpha	0.420*	0.921***	0.143	-0.078
	(0.211)	(0.303)	(0.206)	(0.109)
3-factor Alpha	0.556**	0.901***	0.156	-0.071
	(0.254)	(0.310)	(0.222)	(0.123)
4-factor Alpha	0.234	0.794**	-0.006	0.073
	(0.197)	(0.291)	(0.193)	(0.150)

Table 3
Politicians' stockholding changes and firms' likelihood of being targeted in mergers

This table reports OLS regression results for firms' likelihood of being targeted in mergers. The dependent variable is a dummy variable that equals one if the firm becomes a merger target in the next quarter and zero otherwise. *Increase in stockholdings in the previous three months* is an indicator variable that equals one if any politician increases his or her holdings in a firm's stock in the past three month (months t-2, t-1, and t) and zero otherwise. *After* is a dummy variable that equals one for the period after the passage of the STOCK Act and zero for the period before. Robust standard errors clustered by firm are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

Independent variable	Merger target in the next quarter?		
	(1)	(2)	(3)
Increase in stockholdings in the previous three months?	0.018***	0.025***	0.025***
	(0.007)	(0.009)	(0.009)
After	0.006	0.012	0.012
	(0.008)	(0.008)	(0.009)
Increase in stockholdings x after	-0.023***	-0.023***	-0.025***
	(0.008)	(0.008)	(0.008)
Size	-0.001**	-0.003	-0.002
	(0.000)	(0.003)	(0.003)
Q	-0.002***	-0.003***	-0.003***
	(0.000)	(0.001)	(0.001)
Leverage	0.008*	0.001	0.001
	(0.004)	(0.011)	(0.011)
Asset tangibility	-0.003	-0.022	-0.022
	(0.004)	(0.014)	(0.014)
Cash holding	0.005	-0.012	-0.011
	(0.004)	(0.008)	(0.008)
Cash flow	0.005	0.070**	0.072***
	(0.016)	(0.027)	(0.027)
Firm FE		√	√
Industry FE	√		
Year FE	√	√	
Industry x Year FE			√
Observations	44,015	43,935	43,935
R-squared	0.005	0.145	0.150

Table 4
Politicians' stockholding changes and firms' revenue and earnings surprises

This table reports OLS regression results for firms' revenue and earnings surprises. The dependent variable in Columns 1 to 3 is the revenue surprise in the next quarter. Revenue surprise is the unexpected change in revenue scaled by the standard deviation of revenue changes following Jegadeesh and Livnat (2006). The dependent variable in Columns 4 to 6 is the earnings surprise in the next quarter. Earnings surprise is defined as the difference between actual earnings and the median analyst forecast, scaled by the stock price five days prior to the earnings announcement. *Increase in stockholdings in the previous three months* is an indicator variable that equals one if any politician increases his or her holdings in a firm's stock in the past three month (months t-2, t-1, and t) and zero otherwise. *After* is a dummy variable that equals one for the period after the passage of the STOCK Act and zero for the period before. Robust standard errors clustered by firm are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

Independent variable	Revenue surprise in the next quarter			Earnings surprise in the next quarter		
	(1)	(2)	(3)	(4)	(5)	(6)
Increase in stockholdings in the previous three months?	0.759***	0.688***	0.682***	0.017*	0.018	0.019
	(0.161)	(0.200)	(0.194)	(0.010)	(0.013)	(0.012)
After	-0.499*	-0.403	-0.382	-0.002	0.011	0.011
	(0.261)	(0.264)	(0.267)	(0.013)	(0.012)	(0.012)
Increase in stockholdings x after	-1.485***	-1.532***	-1.419***	-0.034***	-0.024*	-0.026**
	(0.271)	(0.279)	(0.278)	(0.012)	(0.013)	(0.013)
Size	-0.067***	-1.022***	-0.971***	0.007***	-0.031***	-0.030***
	(0.013)	(0.157)	(0.156)	(0.001)	(0.009)	(0.010)
Q	0.248***	0.207***	0.204***	-0.002	-0.008***	-0.008***
	(0.019)	(0.043)	(0.043)	(0.001)	(0.003)	(0.003)
Leverage	1.469***	4.028***	4.027***	-0.020	-0.008	-0.009
	(0.138)	(0.406)	(0.399)	(0.013)	(0.024)	(0.024)
Asset tangibility	0.283**	3.047***	3.049***	-0.023**	0.016	0.016
	(0.137)	(0.537)	(0.539)	(0.012)	(0.032)	(0.032)
Cash holding	-0.219	-0.924***	-0.943***	0.065***	-0.023	-0.026
	(0.142)	(0.327)	(0.324)	(0.013)	(0.022)	(0.023)
Cash flow	0.250	-1.385	-1.584*	0.269***	0.052	0.045
	(0.473)	(0.849)	(0.833)	(0.045)	(0.085)	(0.086)
Firm FE		√	√		√	√
Industry FE	√			√		
Year FE	√	√		√	√	
Industry x Year FE			√			√
Observations	44,015	43,935	43,935	44,015	43,935	43,935
R-squared	0.091	0.223	0.248	0.015	0.187	0.191

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Table 5
The STOCK Act announcement returns: univariate results

This table reports the cumulative abnormal returns (CARs) around the passage of the STOCK Act. We report CARs over the three-day event window [-1, +1], the five-day event window [-2, +2], and the seven-day event window [-3, +3], separately for firms with politician ownership (Columns 1 and 2) and firms without politician ownership (Columns 3 and 4). Column 5 reports the *p*-values of the differences between the two groups of firms. Robust standard errors are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

	Firms with politician ownership		Firms without politician ownership		*p*-value of difference
	(1)	(2)	(3)	(4)	(5)
CAR [-1, +1]	N=388	-0.014***	N=3,111	0.000	0.000
		(0.002)		(0.001)	
CAR [-2, +2]	N=388	-0.017***	N=3,111	0.001	0.000
		(0.002)		(0.001)	
CAR [-3, +3]	N=388	-0.027***	N=3,111	0.002	0.000
		(0.004)		(0.002)	

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Table 6

The STOCK Act announcement returns: multivariate results

This table reports OLS regression results for firms' cumulative abnormal returns (CAR) around the passage of the STOCK Act. The dependent variable is the CAR over the three-day event window [-1, +1]. In Columns 1 and 2, politician stock ownership is a dummy variable that equals one if at least one politician owns stock in the underlying company and zero if the stock is not owned by any politicians. In Columns 3 and 4, politician stock ownership is the politician stock ownership amount, which is the natural logarithm of the aggregated dollar amount of stock owned by all politicians in the underlying company. Robust standard errors are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

| | CAR [-1, +1] | | | |
| | Ownership dummy | | Ownership amount | |
Independent variable	(1)	(2)	(3)	(4)
Politician stock ownership	-0.013***	-0.013***	-0.001***	-0.001***
	(0.002)	(0.003)	(0.000)	(0.000)
Size	0.000	0.001	0.000	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Q	-0.002**	-0.001	-0.002**	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Leverage	0.006	0.003	0.006	0.003
	(0.006)	(0.006)	(0.006)	(0.006)
Asset tangibility	-0.023***	0.005	-0.023***	0.004
	(0.004)	(0.007)	(0.004)	(0.007)
Cash holding	0.006	0.005	0.006	0.005
	(0.006)	(0.007)	(0.006)	(0.007)
Cash flow	-0.005	-0.008	-0.005	-0.008
	(0.006)	(0.007)	(0.006)	(0.007)
Industry FE		√		√
Observations	3,499	3,499	3,499	3,499
R-squared	0.022	0.106	0.022	0.106

Table 7
Procurement contracts, government grants, and trade mission participation

This table reports OLS regression results for government contracts and grants awarded to firms as well as firms' likelihood of participating in trade missions. The dependent variable is the natural logarithm of the amount of procurement contracts the firm receives (contract amount; Columns 1 and 4), the natural logarithm of the amount of government grants the firm receives (grant amount; Columns 2 and 5), and an indicator variable of whether the firm has participated in government-organized high-profile trade missions (participate in trade mission; Columns 3 and 6). In Columns 1 to 3, politician stock ownership is a dummy variable that equals one if at least one politician owns stock in the underlying company and zero if the stock is not owned by any politicians. In Columns 4 to 6, politician stock ownership is the politician stock ownership amount, which is the natural logarithm of the aggregated dollar amount of stock owned by all politicians in the underlying company. *After* is a dummy variable that equals one for the period after the passage of the STOCK Act and zero for the period before. Robust standard errors clustered by firm are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

Independent variable	Contract amount	Grant amount	Participate in trade mission	Contract amount	Grant amount	Participate in trade mission
		Ownership dummy			Ownership amount	
	(1)	(2)	(3)	(4)	(5)	(6)
Politician stock ownership (Own)	2.319***	0.703***	0.098***	0.248***	0.076***	0.010***
	(0.387)	(0.147)	(0.015)	(0.039)	(0.016)	(0.002)
After	-0.840**	-0.069***	-0.002	-0.844**	-0.070***	-0.001
	(0.400)	(0.024)	(0.002)	(0.400)	(0.024)	(0.002)
Own x after	-1.312***	-0.458***	-0.079***	-0.137***	-0.043***	-0.009***
	(0.287)	(0.128)	(0.016)	(0.029)	(0.013)	(0.002)
Size	0.440***	0.051***	0.001	0.425***	0.044***	0.001
	(0.055)	(0.014)	(0.001)	(0.055)	(0.013)	(0.001)
Q	0.115**	-0.005	-0.001	0.110**	-0.007	-0.001
	(0.056)	(0.011)	(0.001)	(0.055)	(0.011)	(0.001)
Leverage	-0.229	-0.119	0.004	-0.206	-0.107	0.004
	(0.449)	(0.075)	(0.005)	(0.449)	(0.075)	(0.005)
Asset tangibility	-1.889***	-0.090	-0.011*	-1.839***	-0.074	-0.010
	(0.520)	(0.081)	(0.006)	(0.519)	(0.081)	(0.007)
Cash holding	-2.410***	-0.051	0.006	-2.361***	-0.035	0.008
	(0.471)	(0.076)	(0.006)	(0.471)	(0.076)	(0.007)
Cash flow	0.370	-0.224***	-0.005	0.399	-0.210***	-0.005
	(0.366)	(0.074)	(0.004)	(0.366)	(0.073)	(0.004)
Industry FE	√	√	√	√	√	√
Year FE	√	√	√	√	√	√
Observations	12,960	12,960	12,960	12,960	12,960	12,960

Table 8
Calendar-time portfolios: powerful politicians and politically active firms

This table reports abnormal returns of buy-minus-sell calendar-time portfolios, both before and after the Act, distinguishing between powerful and non-powerful politicians and between politically active and non-active firms. Monthly abnormal returns (Alphas) are calculated from calendar-time regressions of the value-weighted buy-minus-sell portfolio returns using the CAPM, the Fama-French three-factor model, and the Fama-French-Carhart four-factor model, respectively. Panel A focuses on stock trades of powerful politicians (defined as those sitting on the top five congressional committees) versus stock trades of non-powerful politicians. Panel B focuses on politicians' stock trades for firms that donate to political campaigns versus firms that do not donate to political campaigns. Panel C focuses on politicians' stock trades for firms that lobby versus firms that do not lobby. Newey-West standard errors with five lags and robust to heteroskedasticity and serial correlation are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

	Before the STOCK Act		After the STOCK Act	
	(1)	(2)	(3)	(4)
	Panel A: Politicians' power			
	Powerful	Non-powerful	Powerful	Non-powerful
Raw return	1.275*	0.026	-0.273	-0.176
	(0.419)	(0.212)	(0.191)	(0.249)
CAPM alpha	1.346 ***	0.089	-0.094	-0.309
	(0.427)	(0.178)	(0.132)	(0.192)
3-factor alpha	1.339 **	0.111	-0.112	-0.314*
	(0.511)	(0.214)	(0.149)	(0.168)
4-factor alpha	1.123 **	0.008	-0.172	0.066
	(0.504)	(0.235)	(0.180)	(0.178)
	Panel B: Firms' political contributions			
	Contributing	Not contributing	Contributing	Not contributing
Raw return	1.007 ***	0.100	-0.024	-0.816
	(0.274)	(0.174)	(0.177)	(0.499)
CAPM alpha	1.082 ***	0.071	0.005	-0.442
	(0.340)	(0.087)	(0.200)	(0.349)
3-factor alpha	1.012 ***	-0.001	-0.005	-0.529
	(0.340)	(0.106)	(0.196)	(0.399)
4-factor alpha	0.990***	0. 157	0.055	-0.549
	(0.338)	(0. 078)	(0.290)	(0.548)
	Panel C: Firms' lobbying activities			
	Lobbying	No lobbying	Lobbying	No lobbying
Raw return	0.973***	0.117	-0.182	-0.512
	(0.267)	(0.190)	(0.199)	(0.343)
CAPM alpha	1.001 ***	0.089	-0.156	-0.221
	(0.314)	(0.101)	(0.220)	(0.177)
3-factor alpha	0.974 ***	0.009	-0.157	-0.292
	(0.320)	(0.105)	(0.231)	(0.206)
4-factor alpha	0.889***	0.190*	-0.080	-0.345
	(0.305)	(0.092)	(0.315)	(0.322)

Table 9
Value loss upon announcement: powerful politicians and politically active firms

This table reports OLS regression results for STOCK Act announcement returns, focusing on the effects and stock ownership by powerful politicians and politically active firms. The dependent variable is the CAR over the three-day event window [-1, +1]. Politician stock ownership is a dummy variable that equals one if at least one politician owns stock in the underlying company and zero if the stock is not owned by any politicians. Powerful politician stock ownership is defined as a dummy variable that equals one if at least one politician owning the stock serves on a powerful Congressional committee and zero otherwise. Political contribution is a dummy variable that equals one if the firm donates to any political campaign and zero otherwise. Lobby is a dummy variable that equals one if the firm incurs any lobbying expense and zero otherwise. Robust standard errors are in parentheses. Statistical significance at the 1%, 5% and 10% level is denoted by ***, **, and *, respectively.

Independent variable	CAR[-1, +1]		
	(1)	(2)	(3)
Powerful politician stock ownership	-0.009**		
	(0.004)		
Political contribution dummy (PC)		0.000	
		(0.003)	
PC x politician stock ownership		-0.012**	
		(0.005)	
Lobby dummy			0.000
			(0.002)
Lobby x politician stock ownership			-0.009*
			(0.001)
Politician stock ownership	-0.007**	-0.006*	-0.007*
	(0.004)	(0.004)	(0.004)
Size	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)
Q	-0.001	-0.002**	-0.002**
	(0.001)	(0.001)	(0.001)
Leverage	0.003	0.006	0.007
	(0.006)	(0.006)	(0.006)
Asset tangibility	0.005	-0.010**	-0.010**
	(0.007)	(0.004)	(0.004)
Cash holding	0.005	0.006	0.006
	(0.007)	(0.006)	(0.006)
Cash flow	-0.008	-0.008	-0.008
	(0.007)	(0.006)	(0.006)
Industry FE	√	√	√
Observations	3,499	3,499	3,499
R-squared	0.107	0.032	0.031