

CONTRACTOR POLITICS: HOW POLITICAL EVENTS INFLUENCE PRIVATE PRISON COMPANY STOCK SHARES IN THE PRE- AND POST-TRUMP ERA

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Introduction

On November 8, 2016, voters elected immigration hardliner and private prison advocate Donald Trump as the forty-fifth president of the United States. The day after the election, stock prices and volume traded soared for two of the largest private prison corporations in the United States, Core Civic (CCA) and The GEO Group. The dramatic increase in stock market returns represented a complete reversal from their previous downward trend. A few months prior to the 2016 election, in August, both companies had lost more than 40 percent of their market value after the Obama administration declared its intention to phase out its use of private prison facilities in the containment of the nation's prisoners and undocumented immigrants. The decision came after several government audits uncovered multiple instances of inadequate medical care, under-staffing, and weak federal oversight (Freed, 2016). By February 2017, however, stock prices increased once again after Attorney General Jeff Sessions reversed the Obama-era policy and formally re-established the government's twenty-year relationship with private prison companies.

The rather sudden shifts in stock market prices suggest that some industries are highly susceptible to elections and government policy-making. Although researchers have established a link between politics and the economy (Fauvelle-Aymar and Stegmaier, 2013; Lewis-Beck and Stegmaier, 2018; Nadeau and Lewis-Beck, 2001; Nadeau et al., 1999), little empirical research has investigated how elections and government policies affect stock market returns

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for specific U.S. industries (Jayachandran, 2006; Knight, 2006). Research on the subject suggests firms can financially benefit (be harmed) from having ideological allies (enemies) control branches of national government (Den Hartog and Monroe, 2008). However, we do not know the extent to which these firms benefit, nor do we understand the politically relevant mechanisms that drive differences in firm stock market valuations.

We address this apparent gap in the literature by examining how private prison company valuations react to political events, government decisions, and shock events. To explain stock returns and volatility, we advance a theory of “contractor politics.” In addition to possessing ideological allies (opponents) in government, we argue that private government contractors whose business model is largely dependent on establishing public-private partnerships will see greater market fluctuation due to key political events, government decisions, and shock events relative to other types of contractors. To test our general theory, we concentrate our efforts on the private prison industry; although it has received support from and donated to both political parties (Collingwood, Morín, and El-Khatib, 2018), more recent events suggest that it has found a stronger ideological ally in the Republican Party (Pauly, 2018a; Tolan, 2019). Moreover, unlike other industries, the private prison industry bases much of its revenue stream on obtaining long-term government contracts to design, build, finance, maintain, and operate prison and immigrant detention facilities.

We estimate several exogenous shock ARIMA time-series models to analyze daily stock market share close value and trade data of the two largest private prison corporations, Core Civic and The Geo Group, from 2016 to 2018, and then from 2000 to 2018. During these time periods, we focus on the 2016 presidential and 2018 midterm elections, two key government decisions (the Yates memo to phase out private prisons and the Sessions memo to rescind that order), and two shock events (family separation as a result of Trump’s zero-tolerance policy and the much-publicized death of undocumented immigrant Jean Jiménez-Joseph in a private prison facility). Additionally, we conduct robustness checks by analyzing share close value and trade data for Lockheed Martin and ExxonMobil. Both corporations are ideologically aligned with the Republican Party. However, the corporations differ in their contractual relationship with government, which enables us to test the extent to which public-private partnerships react differently to political events, government decision-making, and shock events.

Our results show clear empirical support for our theoretical expectations. In support of our candidate/party alignment hypothesis, the 2016 presidential and 2018 midterm elections had a strong influence on the private prison industry's financial projections, increasing trade volume for both companies and increasing stock returns after Donald Trump's election. We also find strong support for our policy-change hypothesis. Although the Obama-era decision to phase out private prisons was positively associated with an increase in trade volume, no such relationship was found after the decision was made to rescind the order a year later. However, both decisions ultimately influenced stock market prices with the Yates memo having the greatest substantive effect on private prisons' evaluations. Finally, our results demonstrate that two major political events, family separation and the death of Jean Jiménez-Joseph, are statistically associated with an increase in trade volume. While the death of Jean Jiménez-Joseph marked a substantive decrease in stock prices for the two private prison companies, child separation had a smaller effect.

In all, these findings have several important implications for the privatization of prisons and immigrant detention centers and for understanding the private-public process of governance in the United States. Our results suggest that, for some public-private partnerships, aligning too closely with one party may ultimately increase a company's market fluctuation, which may be undesirable for company executives and shareholders. This might explain why many companies donate equally to candidates of both parties. However, companies from some industries, by virtue of their services, logically align with one party over the other and so become vulnerable to particular political events. That said, the longer-term contractual relationship and transfer of greater government responsibility inherent to public-private partnerships further solidifies privatization and the profiteering based on incarcerated individuals as an institutional and societal norm. Therefore, it is likely that private prisons will continue to pursue such partnerships at the expense of already marginalized groups in society, including African-Americans, Latinos, and undocumented immigrants, and at the possible risk to their own long-term profits.

Elections, Policy, and Stock Markets

Political factors play a significant role in the valuation of stock market volatility. A key argument in the stock market literature is that businesses benefit from having ideological allies in government. The underlying rationale is that the ideological interests of elected officials naturally align with the policy and/or financial interest of some firms but not others. For instance, Republicans tend to favor policies that benefit the defense industry and Democrats tend to favor those that benefit the green-energy industry. Such policies, moreover, manifest themselves in the form of government contracts, increased appropriations, tax relief, and government deregulation, just to name a few. Firms, as profit-maximizing actors, can also build upon these “natural” alliances by strategically engaging in political activities (for example, lobbying, making campaign donations) to further promote their financial interests (Andres, 1985; Boies, 1989; Grier, Munger, and Roberts, 1994; Hansen and Mitchell, 2000; Hillman, Keim, and Schuler, 2004; Masters and Keim, 1985; McWilliams, Van Fleet, and Cory, 2002). In doing so, firms can signal overlapping ideological interests, build political relationships, and grow political networks. However, as we will show, such signaling is not cost-free, as ideologically-aligned politicians/parties can and do lose elections.

To examine the influence of ideological allies on stock market returns and volatility, scholarship has focused on election outcomes and government decision-making. Interestingly, few have investigated how elections and government policies affect stock market returns for specific U.S. industries (Jayachandran, 2006; Knight, 2006). This research shows that publicly traded corporations benefit when preferred candidates win elections and when partisan majorities shift in their favor. In 1980, for instance, Republican gains in the White House and the U.S. Senate led to an increase in valuations for defense-related corporations (Roberts, 1990). In 2000, Bush-favored firms increased by three percent while Gore-favored firms decreased by ten percent (Knight, 2006).

Finally, Jayachandran (2006) shows that Jim Jefford's switch from the Republican to the Democratic Party, which gave the Democrats a majority in the U.S. Senate, decreased equity evaluations of firms that had contributed to Republicans in the previous election cycle (-.08 percent for every US\$250 000). The partisan move also had a similar effect on the energy industry, increas-

ing valuations of renewable-energy firms and decreasing valuations of oil-based firms (Den Hartog and Monroe, 2008).

Nevertheless, ample evidence suggests that elections and policies affect stock markets more broadly. For instance, they are especially sensitive to competitive elections in which there is no clear winner. Specifically, markets are more volatile when election outcomes are uncertain. Using polling data and delayed winner announcements to determine uncertainty in elections, Li and Born (2006), Nippani and Medlin (2002), Nippani and Arize (2005), and He et al. (2009) find competitive elections can increase stock prices. In addition to stock market returns, Goodell and Bodey (2012) find price-earning ratios among S&P 500 companies (P/E) are inversely related to certainty in U.S. elections.¹ Finally, Goodell and Vähämaa (2013) use Iowa Electronic Markets data and the VIX volatility index to measure uncertainty in presidential elections and stock market volatility, respectively. They find a clear and positive correlation between the two measures across five presidential election cycles (1992-2008) (see also Gemmill, 1992; Białkowski, Gottschalk, and Wisniewski, 2008).

Stock markets also benefit from having particular political parties in control of government, though how the stock market performs can vary across time. Early research indicates a strong initial positive (negative) reaction to the election of Republican (Democratic) presidents (Niederhoffer, Gibbs, and Bullock, 1970; Riley and Luksetich, 1980; Aggarwal and Schirm, 1992). However, the relationship between the party of the president and stock market returns reverses over four years with stock markets performing better under Democratic administrations. In their study of four-year presidential terms between 1927 and 1988, for example, Santa-Clara and Valkanov (2003) observe an average nine-percentage-point difference between Democratic and Republican administrations. However, others do not find a relationship between partisanship and stock market returns (Jones and Banning, 2009; Sy and Al Zaman, 2011). Instead, scholars attribute the relationship between Democratic presidencies and election cycles to higher market and default risk premiums that tend to occur under Democratic administrations (Sy and Al Zaman, 2011).

Finally, stock markets react to monetary and fiscal policies set forth by government (Bjørnland and Leitemo, 2009; Conover, Jensen, and Johnson, 1999;

¹ Price Earning (P/E): The price of a company's share of stock divided by its earnings per share.

Fama and French, 1988; Galí and Gertler, 2007; Gertler and Gilchrist, 1993; Jensen and Johnson, 1995; Patelis, 1997; Thorbecke, 1997). Regarding monetary policy, Thorbecke's 1997 study of 30 industries finds that stock returns tend to increase when the Federal Reserve implements expansionary policies. Rigobon and Sack (2004) also demonstrate that stock markets are responsive to the Federal Open Market Committee Meetings and when the chairman of the Federal Reserve speaks to Congress. Specifically, the authors find that a 25-basis-point increase in three-month interest rate results in a 1.9-percent decline in the S&P 500 index and a 2.5-percent decline in the Nasdaq index. Finally, Bernanke and Kuttner (2005) find that stock markets react strongly to unanticipated Federal Reserve monetary actions. On average, the authors find that a hypothetical unanticipated 25-basis-point cut in the federal funds rate target is associated with about a 1-percent increase in broad stock indexes. Fiscal policies play a comparatively minor role in stock market behavior (Afonso and Sousa, 2011) and interact with one another to influence stock market returns. For example, Jansen, Li, Wang, and Yang (2008) show that rate increases, coupled with increases in the fiscal surplus, can have a substantive impact on the stock market. Similarly, Chatziantoniou, Duffy, and Filis (2013: 18) show that while fiscal policies do not directly influence stock markets in the U.S., changes to the money supply affect interest rates, which, in turn, negatively affect stock markets.

Overall, the evidence suggests a seemingly clear relationship between elections and government decision-making on the one hand and stock market returns on the other. A key limitation, however, is that previous scholarship on stock markets tends to treat industries as monolithic, as it does not fully explain why some industries are likely to react to political events with changes in stock market returns and volatility while others do not. Specifically, relationships between corporations and government can vary considerably. Although many firms have relatively few financial ties to government, some firms, such as private prison corporations, possess much stronger financial ties with it and are ultimately dependent on winning government contracts to generate profits. In the following section, we resolve this discrepancy by presenting our theory of "contractor politics" and explain how private prison industry stock market returns are especially susceptible to elections, government decision-making, and political events.

Theory of Contractor Politics

Our theory of contractor politics generally states that a firm's financial relationship with government will play a significant and substantive role in stock market returns and volatility. Firms that have a particularly strong financial relationship with government are those that enter into public-private partnerships. Public-private partnerships are broadly defined as, "A division of labor between government and the private sector across policy spheres as much as to any specific collaboration between government and the private sectors on particular policy projects" (Vaillancourt, 2000: 1). However, government departments and agencies have designed alternative definitions that are specific to their project goals.²

Private-public partnerships differ from firms that engage in standard contractual agreements with government. The key difference between them is the presence of bundled contracts, shared decision making between public and private entities, and greater financial risk that government places on private firms to complete a project (ICMA, 2017). Under conventional contractual arrangements, the public entity assumes all financial risk, maintains complete control over final decision-making, and awards a private company—typically the lowest bidder—with either single or multiple contracts to complete discrete tasks. The contractual relationship ends upon completion of the contract. In public-private partnerships, however, the government bundles to varying degrees the design, build, operation, and maintenance of a project. Both public and private entities also share greater responsibility in the delivery of bundled projects; and at times, the public entity may require private firms to finance a project with the promise of reimbursement at a later date, either through tax revenue or revenue generated by the project (ICMA, 2017). Public-private partnerships, therefore, have the potential to last as short a time as a few years or as long as decades, depending on the arrangement of bundled contracts, responsibility, and financial risk.

The strength of the partnership can also vary considerably. Several types of public-private partnerships are based upon the degree of public and private sector responsibility and financial risk. In a design-build (DB) partnership,

² For example, the Department of Defense identifies three types of public partnerships known as "workshare," "direct sales," and "lease."

the government transfers the least amount of risk and responsibility to private firms. Private firms contract with government for a fixed price to jointly manage the design and construction of a project while the government finances, operates, and maintains it. Government can also transfer greater financial risk and responsibility to private firms by engaging in design-build-finance (DBF), design-build-operate (DBO), and design-build-maintain (DBM) partnerships. In DBF partnerships, private firms provide up-front capital to design and build a project with the expectation of financial reimbursement from government. In DBO and DBM partnerships, private firms can also contract with government to maintain or operate a facility after the design and construction of a project. Alternatively, government can contract with private firms to maintain and operate already existing facilities over an extended period of time. Finally, in design-build-finance-operate (DBFO) and design-build-finance-operate-maintain (DBFOM) partnerships, government transfers the greatest amount of risk and decision-making to private firms. In such instances, the government transfers (nearly) all aspects of a project, including the design, construction, operations, and maintenance of a project to a private firm while retaining ownership of the project over a concession period, typically twenty-five to thirty years. During the concession period, the private firm raises revenue through the operation and maintenance of the project until the end of the lease term (ICMA, 2017).

In the United States, industries engage in a variety of public-private partnerships across a wide array of policy domains. For example, the Department of Defense has entered into public-private partnerships with defense contractors, including Lockheed Martin and Boeing, to design, build, and maintain (DBM) air and missile defense systems, satellites, aircraft, and rotary and mission systems (Lockheed Martin Corporation, 2017). The Department of Transportation has also encouraged state governments to enter into long-term concessionary agreements to design, build, finance, operate, and maintain (DBFOM) surface transportation projects (such as highways, bridges, tunnels, rail lines, or transit systems), as well as airports and ports of entry (Build America Bureau, 2018).

Based on the foregoing reasoning, therefore, we expect public-private partnerships to be particularly sensitive to elections and policy-making, especially when firms possess ideological allies (or enemies) in government. Given their unique characteristics described above (that is, bundled responsi-

bilities, shared decision-making, and heightened financial risk), public-private partnerships possess greater financial ties to government and therefore should be more responsive to political events, policies, and exogenous shocks than firms with relatively weaker financial ties to government.

Finally, stock market returns and volatility should also depend to some degree on the overall strength of the public-private partnership itself, with DBFOMs possessing the greatest amount of overall sensitivity to politics and DBs possessing the weakest.

The Private Prison Industry in the Trump Era

To test our argument, we focus on the private prison industry because it possesses ideological allies in government and has engaged in numerous public-private partnerships. The U.S. prison industry largely follows the DBFOM model. Allen and English (2013) note that “private prisons finance, design, construct, and manage a prison for an agreed period of time, usually twenty-five to thirty years, after which time the building reverts to the ownership of the state” (Allen and English, 2013). In 2017, for example, the U.S. Immigration and Customs Enforcement contracted with The GEO Group to design and build a privately-owned, 1000-bed immigrant detention facility worth a reported cost of US\$110 million and an estimated US\$40 million in return. Upon completion in 2018, The GEO Group would be responsible for operating the facility for ten years with opportunities to renew its federal contract with ICE (GEO Group, 2017). However, it is important to note that private prison companies can also provide very specific services, such as security and transportation, over shorter periods of time.

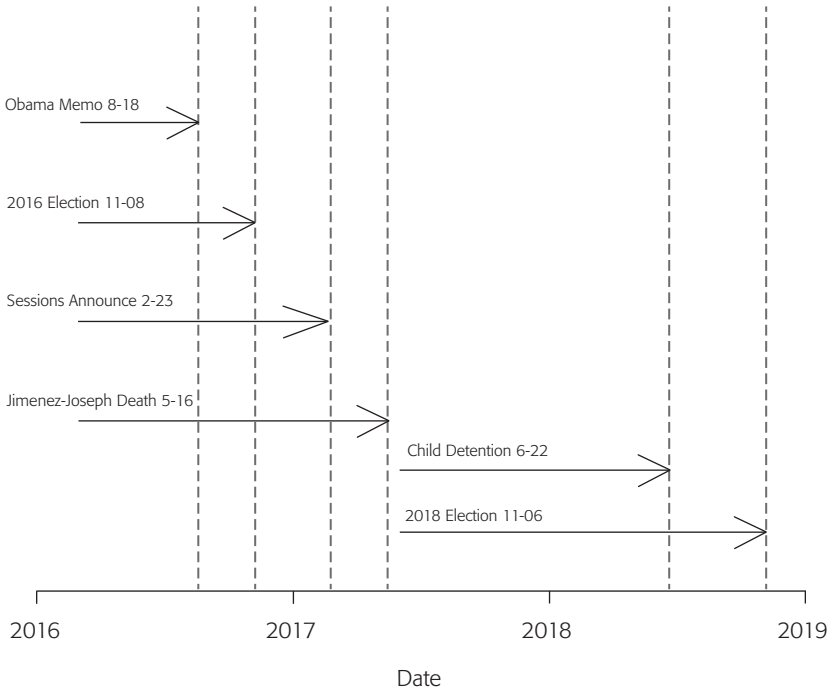
Given the rather close financial relationship between private prison companies and government, we contend that stock market returns for the private prison industry will react strongly to the election of ideologically aligned candidates/parties, government decision-making in the form of policy and government contracts, and exogenous issue-relevant shocks. Although our theory of contractor politics applies across time, we focus primarily on the time period just before and after the 2016 presidential election. We focus on this particular period because it encompasses several key events that had the potential to influence prison company stock market returns and volume trading.

Figure 1 shows a timeline of these political events. Prior to the 2016 election, in August, the Obama administration issued a memo to the Bureau of Prisons, instructing it to phase out its use of private prisons. In the memo, Acting Director Sally Yates cited a declining prison population and safety concerns as reasons for the decision and specifically directed the bureau to either “decline to renew that contract [with private prisons] or substantially reduce its scope in a manner consistent with law and the overall decline of the bureau’s inmate population” (Yates, 2016).

The memo dealt a financial blow to the private prison industry, placing its operations at risk.

FIGURE 1

Timeline of Relevant Events Implemented as Exogenous Shocks (Obama 2016 memo phasing out private prisons; 2016 election outcome; 2017 Sessions order rescinding Obama’s memo; Jean Jiménez-Joseph death; child detention crisis; 2018 election outcome)



SOURCE: Developed by the authors.

By November 2016, prison industry fortunes changed with Donald Trump's election as the forty-fifth president of the United States. During the Republican primaries, candidate Trump signaled his clear support of the private prison industry. In a townhall meeting, he stated, "I do think we can do a lot of privatizations and private prisons. It seems to work a lot better" (Brittain, 2017). Trump's support for the private prison industry has been closely linked to the industry's overwhelming preference for Donald Trump during the election. In 2016, private prison companies donated directly to Trump's campaign and gave to pro-Trump political action committees, such as Rebuilding America Now. The two largest private prison companies, CCA and The Geo Group, also donated US\$250 000 each to Trump's presidential inauguration. Although it is illegal for contractors to contribute directly to candidates, the donation is understood to be a loophole in campaign finance laws as it is not illegal for contractors to contribute to "post-election" activities (Baumgart, 2018). Finally, the GEO Group, moved its annual meeting from its traditional site in Boca Raton to a Trump-owned hotel in Miami, Florida, signaling support for Trump (Brittain, 2017). This backdrop leads to our first hypothesis:

- *H1: Candidate Alignment Hypothesis:* The election of ideologically aligned candidates will be positively associated with an increase in stock market returns *and* trade volume for the private prison industry. Conversely, the election of ideologically opposed candidates will be negatively associated with stock market returns *and* positively associated with trade volume.

Soon after the election, the Trump administration rewarded the private prison industry with a series of executive orders that increased the supply of prisoners and detainees. In February 2017, Attorney General Jeff Sessions issued a memo reversing the Obama-era decision to phase out private prisons. In the memo, Sessions argued that Yates's directive went against "long-standing Justice Department policy and practice" and "impaired the Bureau's ability to meet the future needs of the federal correctional system" (Federal Bureau of Prisons, 2017). The reversal came just days after Trump signed a series of executive orders that, among other things, called for the construction of more detention centers along the southwest border and an increase in

federal efforts to identify, capture, and deport undocumented immigrants (Schouten, 2017). However, these events demonstrated the administration's punitive and harsh immigration policies, cuing investors that the administration was intent on immigrant capture, containment, and deportation. Therefore, we introduce our second hypothesis:

- *H2: Policy Alignment Hypothesis.* The implementation of prison-relevant punitive immigration policies will be associated with an increase in stock market returns *and* trade volume for the private prison industry. Conversely, when prison-relevant punitive immigration policies are lifted or welcoming policies enacted, stock market returns will drop *and* trade volume will increase.

The financial gains likely made by the election of Donald Trump and his subsequent executive orders was quickly curtailed by shock events that ultimately led to negative press. Evidence of malfeasance and abuse have been well-documented in the private prison industry (Davis, 2016). In May 2017, Jean Jiménez-Joseph, a DACA recipient with mental illness, committed suicide in a Core Civic immigration detention facility after spending nineteen days in solitary confinement for protesting the facility's poor conditions (Glawe, 2017). His death garnered significant attention in the media. In the wake of Trump's hardline immigration policies, it drew attention to an increase in the rising death toll and poor conditions in private prisons. Moreover, Georgia's Bureau of Investigations found that prison operators failed to routinely check on Jiménez-Joseph, denied him visitors without justification, and failed to send his attorney documents requested (Pauly, 2018b). Given the overwhelming negative press surrounding this event, we expect the death of Jean Jiménez-Joseph to significantly increase trade volume and decrease stock-share value among private prison contractors.

Nearly a year later, in April 2018, the Trump administration initiated its zero-tolerance policy (U.S. Department of Justice, 2018). The executive order directed federal agencies to prosecute all adult undocumented immigrants and to charge those with children with child-smuggling, thereby justifying the separation. This resulted in the separation of more than 2000 children from their parents at the U.S.-Mexico border, causing panic and public outcry in June 2018 (Hegarty, 2018). Since these announcements, ICE reported a

42-percent and 11-percent increase in arrests in Trump's first and second years in office, respectively (Bialik, 2018; Shortell, 2018). Although one might anticipate the explosive reaction to the child detention crisis could be bad for the prison industry, another way to think about it is that the crisis symbolized the administration's immigrant crackdown. These harsh policies, then, should lead to a greater demand for detention. Thus, investors may see an immigration crisis such as this as actually very good for the prison industry. Thus, we introduce our third hypothesis:

- *H3: Shock Event Hypothesis.* Events that generate prison industry press that might auger a downward shift in prisoner supply will be associated with a decrease (increase) in stock market returns and an increase in trade volume. However, events that signal industry robustness will be associated with an increase in stock market returns and an increase in trade volume.

Finally, our theory of contractor politics suggests that stock market returns and trade volume will be disproportionately responsive to some administrations but not others, based on ideological alignment. Although Democrats and Republicans alike have historically favored the private prison industry, private prison companies generally prefer Republican presidential administrations to Democratic ones. However, we take the position that stock market returns for the private prison industry will have a substantially more positive reaction to the Trump administration than to previous Republican administration, given Trump's unabashed prison industry support. Although both the Bush and Trump administrations both demonstrated support for the private prison industry, Trump's pre-campaign support for private prisons and comparatively hardline stance on immigration makes him a stronger ideological ally. Given these key differences, we hypothesize the following:

- *H4: Election Hypothesis.* The outcome of the 2016 election will have a greater substantive and positive effect on private prison stock market returns and trade volume than will the 2000 and 2004 presidential election outcomes.

Data and Method

We relied on a variety of data sources to test our hypotheses deduced from our theoretical framework. Our primary data source came from the Yahoo Financial application programming interface, which tracks the U.S. stock market. We gathered daily stock market share close value and trade data from 2016 to 2018 for the two largest private prison companies, Core Civic (CXW) and The Geo Group (GEO).³ Thus, we have daily values for two years (except weekends and holidays). We then created relevant exogenous shock time points based on real-world events.

Figure 2 presents Core Civic's time series across the 2016-2018 period. The top left panel shows daily volume traded, and the top right panel displays daily differenced volume traded. We included bands representing one and two standard deviations away from the differenced mean. The largest daily trade values occurred on the following days: August 18, 2016, November 9, 2016, and June 22, 2018. The first date captures the Obama administration's executive announcement phasing out private prisons. This led to a fury of trading activity, with stocks tumbling dramatically. The second date marks the effects of the Donald Trump's 2016 general election victory: CCA stocks rose dramatically following his win. The final date captures trading in response to the immigrant child-separation crisis in summer 2018.

The bottom left panel shows daily Core Civic share value, with a comparison point for the Dow Jones Industrial Average across the same time period. The bottom right panel reveals daily differenced share value. Much like the volume plots, the largest daily share changes occurred on August 18 and November 9, 2016.

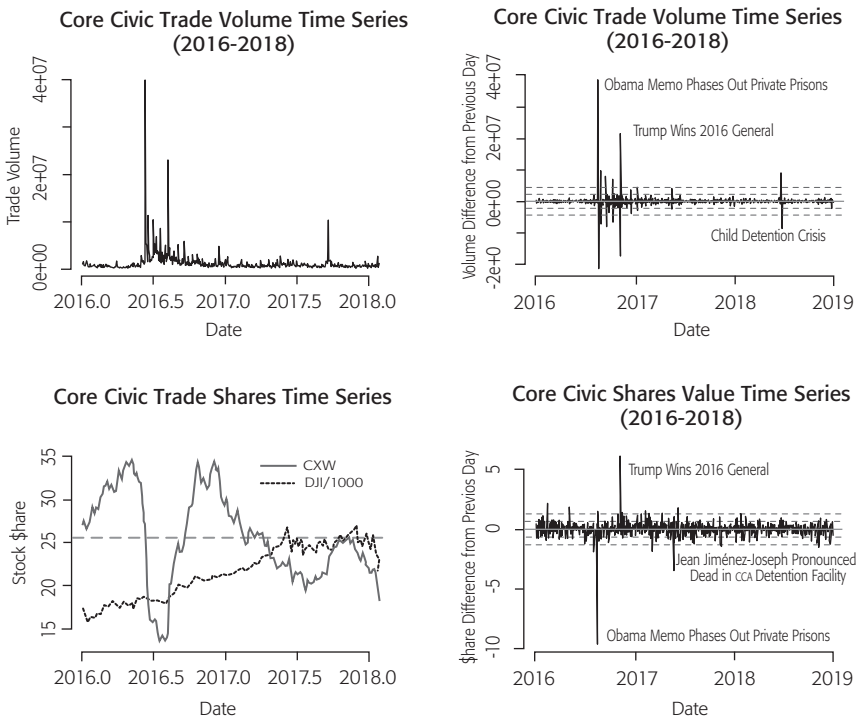
However, the bottom right plot reveals a new data point: On May 15, 2017, an undocumented immigrant, Jean Jiménez-Joseph, a Panamanian national, allegedly killed himself while detained in Core Civic's Stewart Detention Center in Lumpkin, Georgia. While awaiting his immigrant court date, Jiménez-Joseph violated facility rules by jumping from one story to the next. He was disciplined and placed in solitary confinement for twenty days according to facility rules. During this time he allegedly hung himself with

³ To test hypothesis 4, we extended the time series. This is discussed when we move to the results discussion for that hypothesis.

his own bed sheet. His death, which garnered significant media attention, clearly affected Core Civic’s share value. Figure A1 in Appendix A confirms the incident’s salience, with spikes in Google searches for “Jean Jimenez-Joseph” among the mass public occurring during the same week of his death.⁴

FIGURE 2

Core Civic (cxw) Volume and Share (Close) Time Series (2016-2018) (Top left panel shows daily volume traded. Top right panel reveals daily differenced volume trade. Bottom left panel traces daily share value. Bottom right panel reveals daily differenced share value.)



SOURCE: Developed by the authors using data from the Yahoo Financial Application.

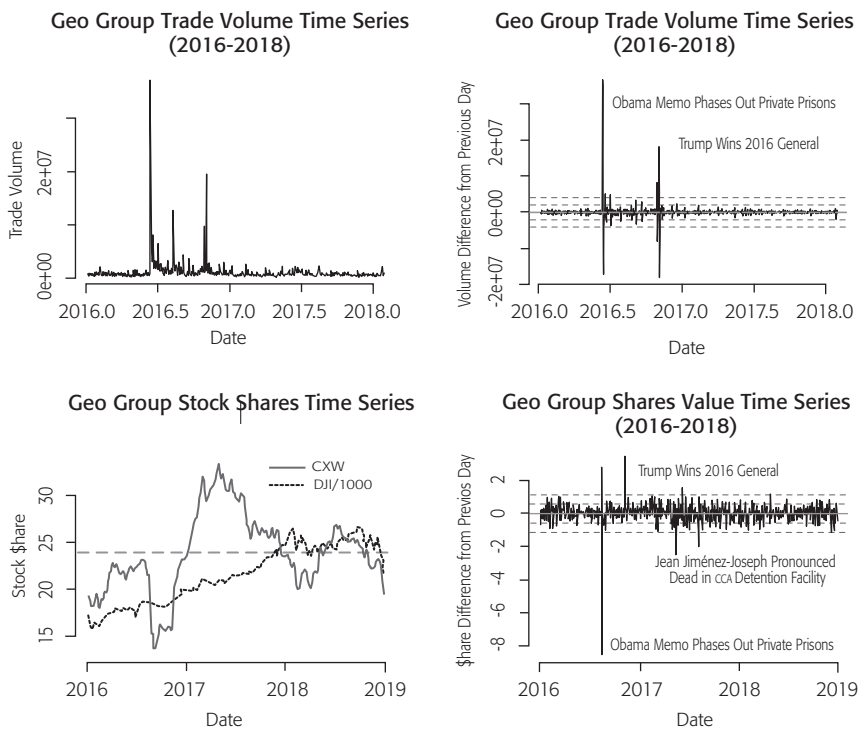
The second company we analyze is The GEO Group, a prison company based in South Florida. Figure 3 presents the same style of plots as presented

⁴ We investigated other immigrant deaths, but to date this is the only one that garnered enough public media attention to influence private prison stock valuations.

in Figure 2. The figure reveals very similar patterns as those found in the Core Civic plots.

FIGURE 3

GEO Group (GEO) Volume and Share (Close) Time Series (2016-2018) (Top left panel shows daily volume traded. Top right panel reveals daily differenced volume trade. Bottom left panel shows daily share value. Bottom right panel displays daily differenced share value.)



SOURCE: Developed by the authors using data from the Yahoo Financial Application.

We augmented both time series data with additional variables, which we used to evaluate our hypotheses. First, we included fixed effects for both quarter of the year and day of the week. This inclusion entails including dummy variables for quarters 2, 3, and 4, with quarter 1 as the comparison group. Dummy variables for day of the week include Tuesday, Wednesday, Thursday, Friday, with Monday as the dummy. Stocks are not traded on the weekend. We included a measure for time, to account for possible drift. This

is simply a count variable with 1 indicating the first day of the series and 753, the last day of the series.

Our key measures vary slightly depending on the nature of the independent variable. This is because the volume time series generally hovers around low numbers, and occasionally experiences major shocks. For this reason, our first set of interruption independent variables captures the day of the shock, with the expectation that the trade volume will almost immediately fall back to low (mean) trade levels. These variables take on a value of 0 for all days not experiencing an exogenous shock, and 1 for the day of the shock.⁵

Thus, for both Core Civic and The Geo Group, we have shock values for the Obama memorandum (phasing out private prisons) (August 18, 2018); election day 2016 (November 9, 2016, the day after); Sessions's order rescinding private prison phase out (February 2, 2017); the date after a highly salient death of an immigrant in a Core Civic detention facility (May 15, 2017); the child-detention crisis (June 22, 2018, the day after the Justice Department asked a federal judge to change rules for detaining children); and election day 2018 (November 6, 2018).

However, share value time series tend to represent more of an actual series instead of a stable system with sudden shocks. Therefore, we measured our shocks to this system as full-on dummy variables, where the value takes on a 0 before the shock, and a 1 after. We include the same time-date (for example, election day 2016) variables from our trade volume analyses.

These measures all provide direct tests of our hypotheses. The election day variables measure our candidate alignment hypothesis (H1). The Obama and Sessions memos outline our policy expectations hypothesis (H2). And the child-detention crisis and the death at a detention center measure our exogenous shock events hypothesis (H3). To test the 2016 election hypothesis (H4), we extended the time series from 1999 to 2018 and just included covariates for presidential election days: 2000, 2004, 2008, 2012, and 2016.

Finally, we analyzed our data using an auto-regressive integrated moving average (ARIMA) time-series modeling approach (Hannan and Rissanen, 1982; Liu, 1989). The ARIMA method accounts for time series non-stationarity by incorporating auto-regressive and moving average terms. We used a technique

⁵ We also estimated models where we set the cut-point the day after the shock. We got very similar results.

that applies an automatic algorithm that chooses the best possible model based on Akaike Information Criterion information. In addition, this automatic process incorporates unit root tests. Each model is estimated using the `arima()` function in the *forecast* R package (Hyndman and Khandakar, 2007).

In a separate online appendix, we also include several other analyses as robustness checks.⁶ As a placebo, we gathered stock prices from Pattern Energy Group, Inc. (NYSE Stock Exchange: PEGI). PEGI is a renewable energy company with holdings in wind and solar energy, based in San Francisco. We do not anticipate PEGI stock time series to respond to the prison company exogenous shocks. For some robustness checks, we also incorporated the Dow Jones Industrial Average (DJI) as a lag variable, as well as firm-level information.

Results

We began by first assessing hypotheses 1-3 with a similar model setup. For each firm, we analyzed both daily stock volume traded and share value during the years 2016-2018. We selected this time period due to the extreme stock volatility observed, which we think is at least partially related to U.S. domestic politics. For various robustness checks and additional analyses, however, we extended the time series.

Our analysis began with Core Civic's trade volume time series. Table A1 in Appendix A presents three columns; the first is the full model estimating different exogenous events' effects on Core Civic's trade volume. The second column is the same model with a logged dependent variable; and the third is the same as the first model but stripped of the fixed effects for quarter and day. For volume, we found results broadly supportive of our hypotheses.

First, we examined the candidate/party alignment hypothesis (H1) in the context of trade volume. To find support for this hypothesis, we should expect to see a rise in trade volume following both the 2016 and 2018 general elections (Real Clear Politics, 2018 and n.d.). Column 1 reveals statistically significant results for the 2016 election-day covariate but not for the 2018

⁶ The separate online appendix can be found at <https://www.collingwoodresearch.com/research.html>

election-day covariate. The 2016 election is associated with an increase in stock trading to the tune of about twenty million trades, whereas, the 2018 election is associated with about 827 000 trades (but is not statistically significant). Both covariates, however, are statistically significant in column 2 (logged dependent variable). Still, clearly, we found strong support for hypothesis 1 *vis-à-vis* stock volume trading.

Second, we evaluated the policy-change hypothesis (H2) in the context of the stock volume time series. To confirm H2, the dates capturing key policy change announcements (“Obama begins phasing out private prisons” and “Sessions reinstates private prisons”) should increase trading beyond the series’ baseline. We found strong and consistent support for the former policy event (Obama’s order to phase out private prisons), leading to a thirty-million-share increase in trade volume. This is the largest effect observed in the entire series. However, Sessions’ policy announcement to rescind the order had no such effect on trading. Trump’s victory coming on the heels of a virulently anti-immigrant campaign probably signaled to investors an imminent private prison immigration policy shift. Thus, stocks had already responded in terms of trade volume by the time Sessions made the rescinding announcement.

To evaluate our “events” hypothesis (H3) in the context of trade volume, we included measures capturing the child detention crisis and the well-publicized death of Jean Jiménez-Joseph in a Core Civic facility. As anticipated, both real-world events generated positive and statistically significant effects on the number of stocks traded. The child detention crisis, as measured, increased trading by nearly nine million shares, whereas the death of Jiménez-Joseph by nearly three and a half million shares. Overall, our results are essentially the same across the three models (volume, volume logged, without fixed effects)

Table A2 in Appendix A next addresses Core Civic share value to provide additional tests of our hypotheses. Turning to Column 1, once again, we found strong support for our candidate-alignment hypotheses (H1). As expected, the 2016 general election, unexpectedly won by a staunchly anti-immigrant candidate, Donald Trump, led to a rise in Core Civic share prices to the tune of just over US\$6 (note the mean of the series is US\$25.60). However, the 2018 general election, won by Democrats who are probably perceived by investors to be less supportive of punitive immigration measures, is associated with a drop in Core Civic share prices of about US\$1.50. The results

are virtually the same whether we include fixed effects (Column 2) for quarter or for day of the week.

On policy (H2), the Yates memorandum phasing out private prisons dropped prison stocks significantly (over US\$9.50 per share). This is the largest single drop in the time series. However, unlike the trade volume model presented in Table A1, Sessions's memo rescinding Obama's order did have a statistically significant, albeit small, effect on Core Civic share value (about a US\$1 increase in the series' value).

To test hypothesis 3, we expected key real-world events to influence stock prices depending on whether investors interpret events as "good" or "bad" for the prison industry. Although one might anticipate that the explosive reaction to the child-detention crisis might be bad for the prison industry, another way to think about it is that the crisis symbolized the administration's immigrant crackdown. These harsh policies, then, should lead to a greater demand for detention. Thus, investors might see an immigration crisis as actually very good for the prison industry. This interpretation is consistent with our findings, as the child-detention crisis is associated with nearly a 1-point increase in Core Civic's stock share.

However, the May 15, 2017 death of an immigrant held in Core Civic's custody, Jean Jiménez-Joseph, garnered significant media attention. Surely, this is "bad" for the prison industry because the death reveals possibly unsafe conditions within the detention facility. A death may lead to increased scrutiny and oversight, which might reveal further legal and human rights violations. This could ultimately lead to a demand for prison reform. Indeed, this event is associated with a drop in stock value of nearly US\$3.50. Thus, we found strong support for our events hypothesis.

Turning to the Geo Group, we observed an almost identical relationship between our dependent and independent variables as observed with Core Civic (see Table A3 in Appendix A). We will move more quickly through this section due to the overlap with Core Civic's stock profile.

In general, the two firms' stock profiles perform similarly. As with Core Civic, Column 1 in Table A3 reveals that the 2016 general election—but not the 2018 general election—is associated with a large rise in share trading (more than ten million shares in 2016). The Yates memo phasing out private prisons massively influenced stock trading (about twenty-eight million Geo Group sharetrades), but Sessions's order rescinding the Yates memo did not

influence trading. Furthermore, we found limited support for the events hypothesis with this series. Neither the child-detention crisis nor the death of Jiménez-Joseph (note the death occurred in a Core Civic facility) elicited statistically significant effects in trade volume in Column 1. However, once the series was logged, we did observe a rise in trading due to Jiménez-Joseph's death.

Turning to shares, we once again observe Geo Group findings similar to those observed for Core Civic (see Table A4 in Appendix A). Trump's victory (Election Day 2016) is associated with an 8.6-point rise in stock share (mean share value of the series is 23.9), whereas the Democrats' victory is associated with about a 1-point loss. These findings conformed to our theoretical expectations enunciated in the candidate-alignment hypothesis (1). However, policy shifts related to private prisons were extremely important to Geo Group's stock share, as Obama's order to phase out the prison industry dropped share value by more than five points, whereas Sessions's rescinding order brought back the company's value almost exactly five points.

We found no evidence that the child-detention crisis as measured affected Geo Group's stock evaluation —this is the one finding that is clearly at odds with our findings for Core Civic. However, even though Jiménez-Joseph died in a Core Civic facility, we see an almost identical drop of three stock points for Geo Group due to his death. It seems that high profile privately-owned or managed detention center deaths may influence any prison company's stock evaluation, regardless of where the death happens. Overall, our results strongly supported our theoretical expectations.

Finally, to test hypothesis 4, the 2016 election hypothesis, we extended the time series from 1999 to 2018 and only included covariates for presidential election days: 2000, 2004, 2008, 2012, and 2016. This allowed for a direct test and comparison across each contest. Our expectation was that we should see election effects for 2016 in both volume and share value for both Core Civic and Geo Group, but not for other election day covariates. Our reasoning for this expectation is clear: more than any other general election candidate running during this period, Trump's anti-immigration agenda cued investors that his immigration policies should stand to benefit the prison industry. In addition, his unexpected victory should lead investors to rush to trade the following day to capitalize on an unexpected occurrence.

Table A5 in Appendix A presents our results testing this hypothesis. Almost none of the covariates representing presidential election days 2000-

2012 are statistically significant. We only found a statistically significant election day 2008 effect for Core Civic (CXW) share values to the tune of about 1 point, but this can be partially attributed to a slight uptick in the post-election market as the Dow Jones Industrial Average was also on the rise at that point.

However, we found strong and consistent statistically significant effects for election day 2016. As with the other models, this election is associated with a massive increase in immediate trading and share value for both Core Civic and Geo Group. As a robustness check, we also calculated linear hypothesis Wald Tests to ensure that our 2016 covariate was indeed statistically distinct from the other election day model covariates. Each test reveals a statistically significant chi-2 result at the 0.001 alpha level. Thus, we found very strong evidence supporting hypothesis 4.

Generalizing the Theory

A major component of our contractor theory is that stock trading should respond in similar ways to similarly situated public-private partnerships. However, the possibility exists that our theory applies to our primary case, private prisons, but not other public-private partnerships. Based on our theory, we expected other public-private partnerships with strong ideological allies to react strongly to political events and ostensibly relevant policies. To evaluate this possibility, we gathered stock data from Lockheed Martin and Exxon-Mobil and present our results (Figures A3-A4 and Tables A6-A9 in a separate online appendix).⁷ Both contract with the Department of Defense and could potentially benefit from a Trump presidency. In 2017, nearly 70 percent of Lockheed Martin's total revenue sales came from U.S. government contracts. Its largest public-private partnership is the F-35 fighter-jet program, which represents 25 percent of the company's total net sales (Lockheed Martin Corporation, 2017). ExxonMobil, however, has a much more diversified revenue base, so its stocks should be less responsive to presidential politics and exogenous policy shocks.

In Tables A6 and A7, we assess Lockheed Martin (LMT) volume and trade correlates. As with the prison companies, election day 2016 dramatically

⁷ The separate online appendix can be found at <https://www.collingwoodresearch.com/research.html>

increased LMT stock trading, but this was not true for the 2018 election. On December 12, 2016, Trump tweeted, “The F-35 program and cost is out of control. Billions of dollars can and will be saved on military (and other) purchases after January 20” (Slotkin, 2016). Fitting with news reports, we observed that this tweet increased LMT trading dramatically. However, Table A7 reports more activity in terms of LMT share value (Figure A3 visualizes the time series). Fitting with our expectations, LMT shares increased value (about US\$8.50 per share) as a response to Trump’s victory, but dropped about US\$21 in response to the 2018 midterm results. These results are consistent with our public-private partnership expectations. We also observed that four of the five of our time covariates capturing key moments in the LMT-government relationship were statistically significant. Both of Trump’s tweets (criticizing F35 and pulling out of Syria) drove down LMT share value considerably. Other date covariates (Lockheed reduces contract cost; final Pentagon contract) captured how the results of contract negotiations ultimately do influence share value. In total, these results are consistent with our theoretical framework.

However, if our argument that public-private partnerships are especially vulnerable to government policy-making and political events, we should not anticipate ExxonMobil’s stock profile to fluctuate in response to political activity in the same way as do ideologically aligned public-private partnerships (see Figure A4). Indeed, while ExxonMobil has some very large government contracts, less than one percent of its total revenues come from U.S. government contracts (Fahey, Wells, and Chemi, 2017). Tables A8 and A9 support these expectations. Neither election day (2016 or 2018) statistically affected ExxonMobil volume trade or share price; nor did Rex Tillerson’s elevation to secretary of state (Harris, 2017), a waiver application for Russian oil exploration (Krauss, 2017), or a deal with the state of Alaska to manage oil exploration (Quinn, 2018). These results are consistent with our theoretical argument and provide added support for our contractor theory of politics.

Discussion and Conclusion

This article develops a theory of contractor politics with the goal of advancing a framework for understanding why the success of some firms/industries might be more or less susceptible to election outcomes or policy changes relevant to

the firm's/industry's economic area. Although scholars have previously investigated various linkages between politics and the economy, and politics and industry stock valuations, little research has theorized why certain industries that contract with government are more or less influenced by political events.

We developed a broad theory to explain why some firms and industries might be more affected by government policy-making and election outcomes than other firms and industries. We argued that ideologically aligned firms whose income stream and business model rely more on government contracts versus firms/industries that rely more on a mix of government contracts and private sector deals are more susceptible to certain types of political events, specifically with respect to stock portfolios. The bulk of our empirical tests of the theory focused on private prison firms' stock portfolios (volume traded and share value).

Specifically, we investigated whether election outcomes, government policy moves relevant to the prison industry, or issue-relevant exogenous shocks affect short- and long-term private prison company stock portfolios. We first tested whether the 2016 and 2018 election outcomes differentially influenced stock share values with the expectation that the 2016 election results should increase both prison company trading and stock share value (Trump victory), and the 2018 election outcome should increase trading but cause share value to drop (Democratic victory). We found broad support for our candidate-alignment hypothesis: Trump's victory increased both prison company stock trading and share value, whereas the Democrats' 2018 victory (winning the House of Representatives) both increased trading and decreased value, although the effects are significantly larger for 2016.

We also tested a hypothesis that the 2016 presidential election outcome would drive trading and stock valuations more than any other recent presidential election. The 2016 election outcome was ripe for massive swings in prison stock valuations: 1) Trump strongly supported the prison industry; 2) Trump campaigned on an extreme anti-immigrant position, suggesting his administration's policies would eventually boost the immigration detention side of the business; and, 3) Trump's victory was unexpected. Using stock trade and share value data across a longer window (1999-2018), we found overwhelming support for this hypothesis.

In addition to our election-day expectations, we developed a policy-based hypothesis where we anticipated 1) Obama's policy announcement phasing

out the private prison industry would drive up trading and drive down stock values; and, 2) Sessions's announcement rescinding Obama's aforementioned order would drive up both trading and stock values. We found overwhelming support for the hypothesis related to Obama's announcement phasing out the prison industry. That move drove up trading and drove down stock value more than any other in the entire time series. On the related hypothesis, we did not find a shift in trade volume related to Sessions's policy announcement rescinding Obama's order. However, the Sessions announcement is associated with a rise in stock values for both Core Civic and especially The Geo Group. Thus, we found broad support for our policy-based hypotheses.

Finally, we hypothesized that key events related to the prison industry should influence stock profiles. We showed that the child-detention crisis and the highly salient death of an undocumented immigrant in a detention center affected prison company stock trading and share value. The child-detention crisis increased stock trading significantly for Core Civic but not as much for The Geo Group. Similarly, Core Civic's stock values increased slightly as a result of the crisis but The Geo Group's remained largely unaffected. Thus, we found mixed results for the events hypothesis in the case of the child-detention crisis. However, it is important to note that, if anything, the child-detention crisis increased trading and values for one company and not for the other. The crisis did not drop stock shares and values as one might envision. This is because, we argue, the crisis—if anything—should lead to a greater federal government reliance on prison companies to detain and control the undocumented immigrant population in the United States.

We did, however, find strong support for our exogenous events hypothesis related to the highly salient death of Jean Jiménez-Joseph. For both Core Civic and The Geo Group, trade volume spiked the day following the event and stock prices dropped by about US\$3 a share.

While the bulk of our empirical tests focus on the prison industry, we analyzed the stock portfolios of two other companies to test the generalizable bounds of our contractor politics theory: Lockheed Martin and ExxonMobil. The former is one of the largest private-public partnerships operating in the United States, whereas, less than 1 percent of the latter's revenue comes from government contracts. Lockheed Martin's stock behavior appears to broadly mimic that of the prison industry, whereas ExxonMobil does not respond to the same political dynamics. This provides further evidence in support of our gen-

eralizable theory. However, future research should expand the stock analysis to a range of companies classified by their relationship to government.

This work is important both for political and theoretical reasons. Being able to explain prison company stock portfolio fluctuations provides interested parties insights into prison companies' vulnerabilities. Knowing what external events tend to drive investor behavior might direct company executives to develop policies that reduce the likelihood of certain events (for example, immigrant deaths).

On the other hand, these findings might provide anti-privatization activists with insights into the industry's pressure points. The finding that Jean Jiménez-Joseph's death captured extensive media coverage that subsequently dropped prison company stock valuations raises a host of questions as to 1) Why this death in particular? 2) How do interested parties raise the profile of such deaths? Future research should investigate the degree to which immigrant deaths inside detention centers gain attention and subsequently influence prison company stock valuations.

In the context where prison companies may not particularly care about public opinion (for example, their stock portfolios rose during the child-detention crisis), prison companies may be more responsive to the almighty dollar. This is an important point to raise to scholars of political science who, when trying to understand how to nudge actors in more pro-social directions, commonly focus on whether certain political communication frames influence reported public attitudes. If it is the case that prison companies generally do not care about public opinion, we argue that political scientists might reconsider how they go about understanding and incentivizing pro-social behavior. Instead, as private companies traded on the New York Stock Exchange, these companies should act like any other company: they want to attain the highest stock value possible. If certain business moves or events clearly negatively affect their stock portfolios, these companies should seek an alternative path to raise their stock price. If this is the case, then it is necessary to understand how political events might play a role in directing the value of prison company stocks.

Finally, in linking political events to prison company stock profiles, this article is the first to demonstrate just how vulnerable the prison industry is to election outcomes, relevant policy shifts, crisis events, and immigrant deaths. This is because the industry largely relies on government contracts involving

public-private partnerships as its business model, and so is therefore very reliant upon decisions made by the federal government (Collingwood, Morín, and El-Khatib, 2018). If the present government decides to grow or end contracts, publicly traded prison stocks should rise or drop in accordance with government policy.

In previous eras, when both Democratic and Republican elites were broadly supportive of neo-liberal regimes such as prison privatization, and prison companies donated to candidates from both parties, election outcomes apparently played no role in affecting stock prices. However, Obama sought to phase out government contracts with prison companies. In the Trump era, Democratic voters and elites appear to be shifting significantly more to the left on matters of immigration policy and criminal justice (Reny, Collingwood, and Valenzuela, 2019; Oskooii, Dreier, and Collingwood, 2018). For instance, in July 2018, partly in response to the child-detention crisis, the California Democratic Party announced it would no longer take donations from prison companies (Soriano, 2018). With continued polarization around the issue, prison companies' stock profiles are likely to become even more susceptible to political events and election outcomes that portend security or insecurity for the industry based on which parties and candidates are winning and losing.

Future research should seek to build upon our theory of contractor politics. In total, we evaluated five companies spanning different relations with government, both in terms of ideological alignment and reliance upon securing government contracts as a business model. In total, we found consistent support for our theoretical framework. We argued that prison company stock profiles and other large public-private partnerships are especially susceptible to political and policy-relevant events. We think this framework can be applied beyond the prison industry, and so future work should seek to classify the range of government contractors as either PPP and aligned, PPP not aligned, non-PPP and aligned, and non-PPP and not aligned. We might then anticipate different financial outcomes for classified groups. Ultimately, this model may be important for understanding democratic representativeness—or the lack thereof—of government and provide insights into how to go about pressuring companies into more “pro-social” behavior.

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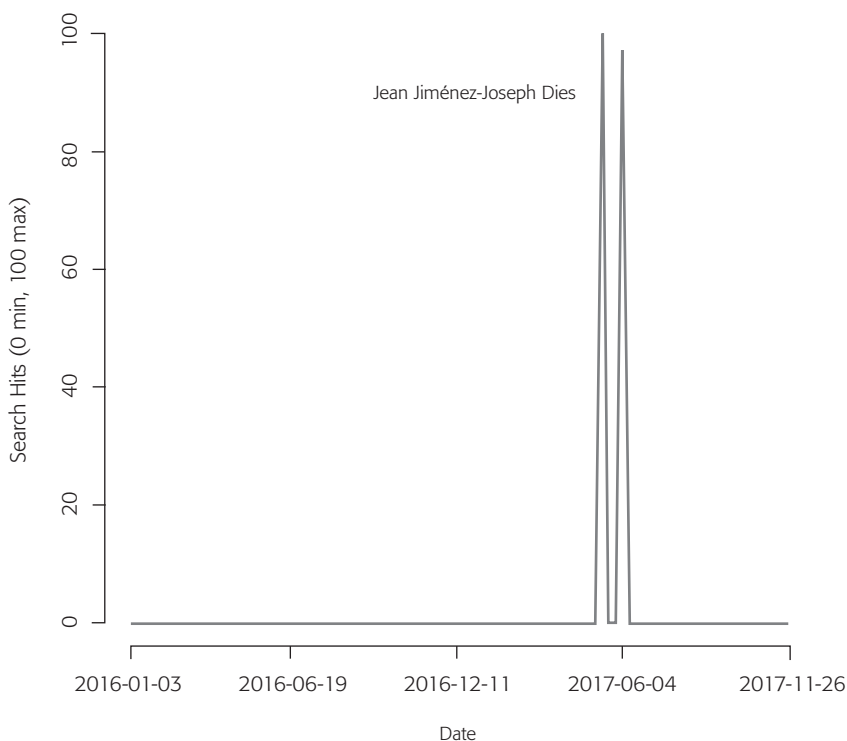
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Appendix A

FIGURE A1

Google analytics search time series for “Jean Jimenez-Joseph,” an undocumented Panamanian national who allegedly killed himself while in detention at Stewart Detention Center in Lumpkin, Georgia. The series reveals dramatic spikes in public interest during the week(s) immediately following Jiménez-Joseph’s death.



SOURCE: Developed by the authors using Google Analytics data.

TABLE A1
ARIMA MODELS ESTIMATING INTERRUPTION EFFECTS ON CORE CIVIC (CXW)
STOCK VOLUME

	<i>Dependent Variable: CXW Stock Volume</i>		
	<i>Volume (1)</i>	<i>Volume Logged (2)</i>	<i>W/O Fixed Effects (3)</i>
AR1	0.433*** (0.044)	1.336*** (0.048)	0.446*** (0.043)
AR2	0.101** (0.042)	-0.300*** (0.062)	0.120*** (0.042)
AR3		-0.045 (0.042)	
MA1		-0.870*** (0.031)	
(Intercept)	1 455 724.000*** (238 664.600)	13.830*** (0.346)	1 616 062.000*** (199 616.400)
Time	-1 561.824*** (450.294)	-0.0002 (0.001)	-1 191.541*** (459.168)
Obama Begins Phasing Out Private Prisons	29 959 883.000*** (1 332 578.000)	2.275*** (0.346)	29 954 728.000*** (1 324 343.000)
Election Day 2016	20 003 789.000*** (1 088 635.000)	2.141*** (0.343)	20 010 189.000*** (1 081 848.000)
Sessions Reinstates Private Prisons	83 787.450 (1 088 726.000)	0.124 (0.344)	208 520.100 (1 088 741.000)
Child-Detention Crisis	8 824 610.000*** (1,090,623.000)	1.949*** (0.343)	8 912 389.000*** (1 085 448.000)
Jiménez-Joseph Death	3 408 582.000*** (1 086 645.000)	1.285*** (0.344)	3 308 127.000*** (1 088 752.000)
Election Day 2018	827 084.800 (1 080 910.000)	0.771** (0.343)	860 205.000 (1 106 724.000)
Quarter 2	-154 031.000 (250 573.500)	-0.020 (0.138)	
Quarter 3	527 370.900** (258,711.600)	-0.034 (0.162)	
Quarter 4	518 557.900** (261 627.300)	-0.153 (0.157)	
Tuesday	47 935.130 (112 225.200)	0.051 (0.036)	
Wednesday	33 924.570 (123 528.100)	0.038 (0.040)	
Thursday	59 846.610 (123 783.300)	0.025 (0.040)	
Friday	232 239.200** (113 292.100)	0.091** (0.036)	

Note: *p<0.1; **p<0.05; ***p<0.01

SOURCE: Developed by the authors using data from the Yahoo Financial Application.

TABLE A2
ARIMA MODELS ESTIMATING INTERRUPTION EFFECTS ON CORE CIVIC (CXW)
SHARE VALUES

	<i>Dependent Variable: CXW Stock Share</i>	
	(1)	(2)
AR1	1.005*** (0.037)	0.989*** (0.005)
AR2	-0.016 (0.037)	
MA1		0.015 (0.039)
(Intercept)	30.462*** (2.588)	30.424*** (2.589)
Time	-0.003 (0.006)	-0.003 (0.006)
Obama Begins Phasing Out Private Prisons	-9.673*** (0.486)	-9.662*** (0.487)
Election Day 2016	6.185*** (0.482)	6.178*** (0.483)
Sessions Reinstates Private Prisons	1.085** (0.484)	1.094** (0.485)
Child-Detention Crisis	0.847* (0.481)	0.863* (0.482)
Jiménez-Joseph Death	-3.435*** (0.481)	-3.453*** (0.481)
Election Day 2018	-1.568*** (0.481)	-1.610*** (0.482)
Quarter 2	-0.103 (0.245)	
Quarter 3	-0.483* (0.293)	
Quarter 4	-0.549** (0.278)	
Tuesday	-0.048 (0.035)	
Wednesday	-0.056 (0.043)	
Thursday	-0.047 (0.043)	
Friday	-0.037 (0.035)	

Note: *p<0.1; **p<0.05; ***p<0.01

SOURCE: Developed by the authors using data from the Yahoo Financial Application.

TABLE A3
ARIMA MODELS ESTIMATING INTERRUPTION EFFECTS ON GEO GROUP (GEO)
STOCK VOLUME

	<i>Dependent Variable: GEO Group Stock Volume</i>		
	<i>Volume (1)</i>	<i>Volume Logged (2)</i>	<i>W/O Fixed Effects (3)</i>
AR1	0.406*** (0.041)	0.092* (0.053)	0.408*** (0.041)
AR2	0.095** (0.038)	0.823*** (0.048)	0.105*** (0.038)
MA1		0.389*** (0.063)	
MA2		-0.563*** (0.053)	
MA3		-0.149*** (0.048)	
MA4		-0.116*** (0.042)	
(Intercept)	1 387 448.000*** (237 554.700)	13.863*** (0.195)	1 431 825.000*** (189 155.300)
Time	-1 101.016** (453.513)	-0.0004 (0.0004)	-1 026.966** (436.242)
Obama Begins Phasing Out Private Prisons	27 831 005.000*** (1 302 578.000)	2.499*** (0.348)	27 782 716.000*** (1 318 478.000)
Election Day 2016	10 261 668.000*** (1 214 888.000)	1.941*** (0.355)	10 348 717.000*** (1 175 912.000)
Sessions Reinstates Private Prisons	69 204.600 (1 195 534.000)	0.271 (0.361)	260 073.000 (1 172 530.000)
Child-Detention Crisis	325 741.500 (1 182 056.000)	0.381 (0.346)	464 675.300 (1 180 082.000)
Jiménez-Joseph Death	1 671 039.000 (1 167 829.000)	1.008*** (0.348)	1 706 991.000 (1 170 389.000)
Election Day 2018	121 107.200 (1 182 253.000)	0.153 (0.347)	86 159.770 (1 185 836.000)
Quarter 2	-296 580.000 (251 814.100)	-0.196 (0.139)	
Quarter 3	221 518.100 (258 347.400)	-0.207 (0.163)	
Quarter 4	-32 114.870 (260 696.900)	-0.282* (0.161)	
Tuesday	63 666.370 (122 845.600)	0.078** (0.040)	
Wednesday	155 539.100 (134 690.500)	0.062 (0.043)	
Thursday	26 988.790 (134 645.300)	0.036 (0.043)	
Friday	245 582.400*** (123 550.200)	0.124*** (0.040)	

Note: *p<0.1; **p<0.05; ***p<0.01

SOURCE: Developed by the authors using data from the Yahoo Financial Application.

TABLE A4
ARIMA MODELS ESTIMATING INTERRUPTION EFFECTS ON GEO GROUP (GEO)
SHARE VALUES

	<i>Dependent Variable: GEO Group Stock Share Share</i>	
	(1)	(2)
MA1	1.241*** (0.048)	1.304*** (0.048)
MA2	1.280*** (0.074)	1.374*** (0.074)
MA3	1.065*** (0.065)	1.144*** (0.064)
MA4	0.723*** (0.047)	0.773*** (0.045)
MA5	0.362*** (0.035)	0.373*** (0.035)
(Intercept)	21.880*** (0.362)	22.384*** (0.345)
Time	-0.004** (0.002)	-0.003 (0.002)
Obama Begins Phasing Out Private Prisons	-5.244*** (0.470)	-5.615*** (0.472)
Election Day 2016	8.615*** (0.506)	8.128*** (0.495)
Sessions Reinststitutes Private Prisons	4.909*** (0.482)	5.032*** (0.490)
Child-Detention Crisis	0.188 (0.475)	0.052 (0.471)
Jiménez-Joseph Death	-3.066*** (0.462)	-3.046*** (0.469)
Election Day 2018	-1.123** (0.498)	-1.513*** (0.501)
Quarter 2	0.933*** (0.271)	
Quarter 3	0.888*** (0.309)	
Quarter 4	-0.246 (0.293)	
Tuesday	-0.034 (0.041)	
Wednesday	-0.072 (0.046)	
Thursday	-0.066 (0.046)	
Friday	-0.051 (0.042)	

Note: *p<0.1; **p<0.05; ***p<0.01

SOURCE: Developed by the authors using data from the Yahoo Financial Application.

TABLE A5
ARIMA MODELS ESTIMATING PRESIDENTIAL ELECTION DAY INTERRUPTION
EFFECTS ON CORE CIVIC AND GEO GROUP TRADING VOLUME AND VALUE

	<i>Dependent Variable: CXW and GEO Stock Volume: Value</i>			
	CXW Volume (1)	GEO Volume (2)	CXW Value (3)	GEO Value (4)
MA1				1.658*** (0.016)
MA2				1.982*** (0.024)
MA3				1.786*** (0.021)
MA4				1.180*** (0.016)
MA5				0.498*** (0.012)
(Intercept)	252,625.500*** (49,790.390)	92,785.180** (44,041.350)		-0.282* (0.146)
Time	205.236*** (9.978)	212.725*** (8.983)	-0.012 (0.008)	0.005*** (0.00005)
Election Day 2000	-73,966.610 (1,082,881.000)	-94,058.290 (961,531.400)	0.010 (0.413)	0.020 (0.269)
Election Day 2004	68,002.270 (1,111,489.000)	-275,670.900 (991,422.400)	0.091 (0.413)	0.035 (0.269)
Election Day 2008	-26,481.220 (1,121,109.000)	118,989.100 (1,000,483.000)	1.030** (0.413)	0.301 (0.270)
Election Day 2012	225,440.500 (1,113,808.000)	-14,338.030 (1,016,831.000)	-0.605 (0.413)	-0.362 (0.270)
Election Day 2016	21,852,457.000*** (1,088,462.000)	11,747,822.000*** (972,850.900)	3.320*** (0.413)	1.448*** (0.269)
Quarter 2	2,267.577 (41,446.350)	-65,059.060* (37,413.700)	0.023 (0.113)	-0.003 (0.081)
Quarter 3	9,121.379 (41,850.410)	3,774.455 (37,320.680)	-0.078 (0.132)	-0.075 (0.092)
Quarter 4	-66,498.410 (41,734.370)	-78,885.920** (37,770.840)	-0.209* (0.115)	-0.301*** (0.082)
Tuesday	18,207.080 (46,648.190)	19,155.180 (41,727.810)	-0.023 (0.017)	-0.008 (0.012)
Wednesday	-216.326 (45,914.520)	23,590.830 (41,568.960)	-0.026 (0.020)	-0.001 (0.016)
Thursday	91,623.480* (47,157.260)	72,919.660* (41,957.000)	-0.009 (0.020)	-0.002 (0.016)
Friday	66,918.820 (46,896.240)	93,615.820** (41,896.380)	0.020 (0.017)	0.011 (0.013)

Note: *p<0.1; **p<0.05; ***p<0.01

SOURCE: Developed by the authors using data from the Yahoo Financial Application.