# The Obscure Directors:

# Why Bureaucrat Directors Matter

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**ABSTRACT**: By identifying and defining bureaucrats and political advisers as politically-connected (PC) directors, besides commonly studied politicians, we record a ten-fold increase in the proportion of PC firms in our cross-country sample. We document that boards in countries with higher institutional quality appoint more bureaucrats and less political executives (i.e., ministers). The former's effectiveness in enhancing firm-value is inverted V-shaped across increasing institutional quality tertiles. Legitimizing their further investigations, we document that bureaucrat-connected firms are larger and better monitored than political executives'. Bureaucrats' "public authority" receives equal "respect" on board and in heavy industries firms whose PC directorship requirements are substantial.

*Keywords*: Politically-Connected Directors, Ministers, Bureaucrats, Heavy Industries, Economic Freedom, BoardEx

*JEL Codes*: G, G3, G34

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*James Hacker: …and you do not retire into obscurity. You take a massive index-linked pension and go off to become directors of oil companies and banks.*

*Sir Humphrey Appleby: Ah, yes, but very obscure directors, minister.*

**Yes, Minister**, Doing the Honours, 1981, BBC2

## I. Introduction

Extant research suggests that institutions shape firms' external environment, enabling or impairing their ability to succeed (North, 1990). The government is the most legitimate and dominant institutional actor across countries (Gerth and Mills, 1946; Huntington, 1968; Meier and O'Toole Jr, 2006). The government not only enact arbitrary and ad-hoc regulations that create uncertainty but also removes them when necessary (Stigler, 1971). Hillman (2005) and Faccio (2006) have broadly argued that firms could "co-opt" the government and its functionaries by appointing politically-connected (PC) directors on corporate boards. However, this steam of formal[1] board-based corporate political activity (CPA) research (Shaffer, 1995; Rajwani and Liedong, 2015) has focused only on the politicians (Fisman, 2001; Faccio and Hsu, 2017; Schoenherr, 2019). Therefore, it ignores a broader cross-section of considerably important, but seemingly obscure political agents, who also constitute the government in democratic societies (Bendor, Taylor, and Van Gaa, 1987; Weingast, 1984; Wicks, 2003; Moe, 2006; Eichbaum and Shaw, 2007). This study introduces two classes of political agents who have a significant role in

[1] In this study, we exclusively explore formal political connections through the board. We refrain from studying political connections through the non-board executive route as it creates unnecessary complexity, making inferences difficult (Pfeffer and Salancik, 1978; Adams and Ferreira, 2007). We also refrain from exploring other CPA strategies such as lobbying (Lo, 2003), political contributions (Correia, 2014; Akey, 2015) or informal political connections, such as friendships, familial relationships, etcetera (Johnson and Mitton, 2003).

democratically elected governments and could potentially be co-opted by firms through board appointments. They are the bureaucrats and political advisers.

Before we could investigate if firms select PC directors based on their prior role in the government, it is necessary to clarify what "resources" or benefits PC directors likely bring to the board (Pfeffer and Salancik, 1978). Previous research suggests that PC directors use their skills, network, experience, and knowledge of the bureaucratic procedures to lobby government functionaries for favorable resources and benefits such as corporate policies, contracts, permits, and bailouts (Hillman, Zardkoohi, and Bierman, 1999; Faccio, Masulis, and McConnell, 2006). Second, PC directors could use their influence to deter market and regulatory enforcements (Chaney, Faccio, and Parsley, 2011; Correia, 2014; Hadani, Doh, and Schneider, 2018). Third, PC directors could also gather crucial information to provide strategic political advice. In the first two methods, PC directors are likely to "squeeze the state" (Faccio, 2006) for extractive benefits (Acemoglu and Robinson, 2012). In the third method, PC directors are likely to utilize their in-depth knowledge about the government and its bureaucratic procedures to advise firms to generate competitive informational advantage (Adams and Ferreira, 2007).

Prior research suggests that weak institutions enable *politicians* to provide extractive benefits (Johnson and Mitton, 2003; Faccio, 2006; Khwaja and Mian, 2005). Despite the existence of some evidence which shows that targeted political connections at the local level, even in countries with robust institutions, could yield extractive advantages (Amore and Bennedsen, 2013). It, however, leaves open the question if PC directors provide corporate political advice. More importantly, if they do, then we question if the politicians or other political agents such as the bureaucrats or the political advisers could best contribute to the firms through such a mechanism.

Lester, Hillman, Zardkoohi, and Cannella Jr. (2008) have argued that the "breadth" and "depth" of government experience are politicians' essential human and social capital to take on the responsibility of corporate directors (Nahapiet and Ghoshal, 1998; Hermalin and Weisbach, 1998). While these suggestions have merits, Lester et al.'s (2008) limited scope in examining only politicians such as U.S. senators, Congress members, and presidential cabinet secretaries limits the

definition of PC directors (Hillman, 2005; Faccio, 2006). Besides, it also confines the human and social capital these PC directors likely bring to the board. In democracies, a broader cross-section of political agents who are not only politicians but also bureaucrats and political advisers operate governmental institutions. Here the main operative difference between the three classes of political agents is how they enter the government and the resulting roles and responsibilities they are likely to discharge. Therefore, to understand PC directors' selection mechanism by listed firms, it is imperative to examine a broader range of government functions through their mode of entry into the government.

With this study, we contribute to the PC board literature in three ways. In our first contribution, we expand the definition of political connections to include other political agents such as bureaucrats and political advisers. We believe it is a significant contribution. In democratic countries, politicians in their role as political executives (i.e., ministers) constitute just one leg of the proverbial "three-legged milk stool" of political agents who run the government. Their general election led appointment to their ministerial positions makes them not only the most visible political agent, but it vests in them public authority (Weingast, 1984; Bendor et al., 1987; Moe, 2006) and fiduciary duties (Natelson, 2004; Leib, Ponet, and Serota, 2012). Whereas, bureaucrats enter the government through professional selection channels such as competitive exams and interviews. In Weberian government bureaucracy, executive authority and administrative responsibilities are separate, distinct, and generally well-defined between political executives and bureaucrats (Gerth and Mills, 1946). Here, bureaucrats – also sometimes known as civil servants – are the administrative "experts" who exercise power and authority on behalf of their "political masters," i.e., the political executives, in an agentic manner (Weingast, 1984; Moe, 2006). Here, political advisers are the third leg of the three-legged milk stool on which the government rests (Wicks, 2003). They enter the government on political patronage from their "political masters." Their central role is to advise the political executives to formulate and assess the technicalities of favored public policies (Eichbaum and Shaw, 2007; Hustedt, Kolltveit, and Salomonsen, 2017).

The mode of entry into the government allows political agents to generate different types of political skills, training, authority, duties, networks, and expertise. Together, they are called human and social capital (Nahapiet and Ghoshal, 1998). Building on Lester et al.'s (2008) proposition, we suggest that the mode of entry into the government is the crucial and fundamental human and social capital generating mechanism, which results in wider "breadths" of perspective and unique "depths" of knowledge into government functioning. Therefore, political executives, bureaucrats, and political advisers who enter the government through elections, selections, and political appointments, respectively, have different forms of human and social capital. It has important implications for the kind of resources and benefits the PC directors would bring to the board.

Prior research documents that politicians provide extractive benefits to the firms (Johnson and Mitton, 2003; Khwaja and Mian, 2005). As institutions' quality decreases through corruption and arbitrary regulations, the politicians' ability to provide extractive benefits is likely to increase. So, would their demand among firms in countries with weaker institutions (Faccio, 2006). In contrast, bureaucrats are more likely to provide advisory resources and less likely to offer extractive resources since they generate their human and social capital through their long-run bureaucratic work experience. Their low-key public persona and bureaucratic expertise (Gerth and Mills, 1946, p. 232) and "other private information" (Moe, 2006, p. 1) are likely to make them ideal *institutional informants*. Therefore, bureaucrats should be magnets for firms in countries where extractive benefits are less likely possible. However, as the firms in countries with stronger institutions still need sound political advice and create a competitive informational advantage, bureaucrats' contributions might be vital.

Political advisers cannot provide substantial political network resources since their core social capital is generated mostly outside of the government (Wicks, 2003; Eichbaum and Shaw, 2007). They also lack a political mandate or bureaucratic expertise. While the firms are like to have some demand for political advisers due to their idiosyncratically unique skills and experiences, it is unlikely that there will be an institutional demand for their services based mainly

on their prior governmental work experience. However, due to their government experience, their inclusion is still essential for the completeness of the definition of political connections.

We test these predictions and all subsequent hypotheses using 29 countries' sample data. Starting with the BoardEx's corporate board data, we adopt a ground-up background search method through hand-collection, which we describe later in greater detail. We identify over 4,842 unique PC directors with our background search method. It is one of the most comprehensive PC directorship databases that match our 22,815 firm-year samples and 188,051 director-firm-year observations between 2000-2015. Median 80 percent of the unique PC directors we identify were bureaucrats. We identify a director as a bureaucrat only if they have worked in the government as a senior civil servant, such as Permanent/Under Secretaries or CEO/CFOs, etcetera, of government institutions. We further identify 16 percent (median) of the unique individuals as political executives (i.e., ministers, excluding members of parliament, i.e., MPs). Over 2 percent (median) of the unique individuals were political advisers attached to vital ministries. Our PC directors' background search method helps connect over 50 percent of the firm-year observations with political connections, which is over ten-fold higher than the previous estimates solely based on politicians (Chaney, Faccio, and Parsley, 2011).

Using this sample, our first set of results suggests that firms in countries with lower quality institutions have a higher demand for political executives. Whereas, firms in countries with high-quality institutions have a greater need for bureaucrats despite the risk of diminishing returns. The demand for political advisers is, however, not relevant from an institutional perspective. Nevertheless, their relevant government experience might be useful to the firms in other ways than investigated in this study. We measure institutional quality using the Fraser Institute's and Heritage Foundation's Economic Freedom scores (Gwartney, Lawson, and Block, 1996; Miller, Kim, Roberts, and Tyrrell, 2020).

Our second contributing insight extends to PC directors' efficacy in increasing firm-value (Hillman et al., 1999; Hillman, 2005; Faccio, 2006; Goldman et al., 2009; Hadani and Schuler, 2013; Carretta et al., 2012). Most studies on PC directorship and firm-value originate from countries with robust institutions, investigates only politicians, and find mixed results. We have

argued that bureaucrats bring informational advantages over other types of PC directors due to their understated and agentic administrative experience and government expertise. Besides, bureaucrats could work in relative obscurity and offer discrete "expert" advice on governmental regulations and arbitrage opportunities. Moreover, political executives' resource extraction is fraught with reputational and public scrutiny challenges owing to their public recognition, social prominence, and corporate appointment transparency (Choi and Thum, 2009), likely without any significant informational advantage (Moe, 2006). Consistent with our observations, we document that bureaucrat directors not only have over five-fold more government experience than the political executives, but firms linked to the former gain value with increasing institutional quality. Nevertheless, such benefits diminish with further increase in institutional quality resulting in an inverted V-shape. In contrast, firms in weaker institutions have a better accounting performance against comparable firms when they appoint political executives, although this evidence's statistical confidence is weak. Together, this evidence provides supporting context and legitimizes the boards' decision to appoint bureaucrats (and political executives) across increasing (decreasing) institutional quality.

Despite their strong presence and robust efficacy in increasing corporate performance, there are puzzlingly scarce studies on bureaucrat directors. As part of our third contribution, we assess if their academic obscurity is justified or an inadvertent oversight. Prior studies provide suggestive evidence that bureaucrats demand "respect" in the form of "bribes" when governing institutions are weak (Ayyagari, Demirgüç-Kunt, and Maksimovic, 2014; Krammer, 2019). Whereas studies in political science and political economics place bureaucrats at the heart of institutional corruption and reform (Ehrlich and Lui, 1999; Treisman, 2000). Therefore, apart from the apparent data challenges, the most plausible explanations lie in bureaucrats' limited public authority and obscurity (Bendor et al., 1987; Moe, 2006; Hillman, 2005). Besides, bureaucrats need to muster access to governmental institutions once they are retired, which is when they are allowed to sit on corporate boards of non-state-owned publicly listed firms (Hillman et al., 1999; Faccio, 2006). A lack of public authority is a significant concern for their academic relevance and legitimacy. To legitimize bureaucrats' theoretical relevance, we study the nature of

the firms they are connected with, the respect shown to them on boards, and if firms have similar or weaker confidence in them when political demands are higher.

Compared to political executives-connected firms, we document that the bureaucrat-connected firms are larger, with a local focus (i.e., more business segments), lower debt, a lower concentration of ownership, and better monitoring from independent directors. These results support our contention that firms that appoint bureaucrats are not insignificant, but they expect different sorts of benefits from their PC directors. Indeed, their PC directorship selections may not be primarily motivated by extractive resources. However, we need not completely rule out this motivation at this stage of the scholarship.

Comparing political executives and bureaucrats' board appointment and experience, we document that bureaucrats bring in more gender diversity on the board, and they are younger than political executives. In essence, bureaucrats are likely to treat their board appointments as a post-retirement career. Whereas, *older* political executives are likely to join board only when their political prospects have genuinely expired. Furthermore, bureaucrats and political executives receive equal pay, have similar tenure lengths, appointed to board chair in equal measure, and bring similar levels of qualifications, financial expertise, and outside affiliations. Except, bureaucrats receive more board committees allocated to them. These results suggest that boards show equal respect to bureaucrats through board appointments and pay.

Finally, prior research suggests that heavy and extractive industry firms (together called: heavy industries) may have a higher demand for PC directors since, within the industrial sector, they are asymmetrically more regulated (Hillman, 2005; Goldman, Rocholl, and So, 2009; Carretta, Farina, Gon, and Parisi, 2012). However, nearly all prior studies investigated extractive industries' *politician*-directors. We use Dierkes and Preston's (1977) and Lin and Li's (2014) identification of heavy industries, which subsumes all other identifications. Suppose owing to the bureaucrats' lower public authority, they could not provide any unique insight into the government bureaucracy. In that case, firms in heavy industries would likely prefer political executives as their primary PC directors as they could provide a broader gamut of resources and benefits. Earlier, we briefly suggested that with the increase in institutional quality, the need for

PC directors' services would likely impair. Therefore, if bureaucrats' advisory functions are less beneficial than political executives', then the former' demand in heavy industries is likely to impair significantly faster as institutional quality increases. Using this test, we examine if bureaucrats' have a comparatively weaker human and social capital than political executives, as perceived by the heavy industry firms. We document that the demand for political executives and bureaucrats impair at broadly the same rate as the institutional quality increases for the heavy industry firms. Together with priors, this result suggests that ignoring bureaucrats was mostly a case of unfortunate academic oversight. These results have implications for the future of the PC directorship scholarship concerning bureaucrat directors.

While our primary results are robust against a battery of alternative measures, estimation techniques, and matched sub-samples, some caveats are necessary. We expect that our PC board results' institutional drivers are likely to persist; however, we refrain from making causal claims for our firm-value results. This study documents broad patterns of PC directors' selections based on their government work experience and the quality of institutions firms encounter across countries. Nevertheless, more research is necessary to uncover firm-level PC director selection mechanisms and their local utility to judge their direct impact on firm valuations accurately. Therefore, we should exercise caution while interpreting economic magnitudes of our firm-value results. Hence, we do not discuss them in greater detail. Instead, our firm value results' benefits lie in its broad directionality.

In the next section, we discuss the study's background and develop our testable hypotheses. In section III., we discuss the research design. In section IV., we report our results. In section V., we discuss the various sensitivity checks we perform. In section VI., we conclude with some final remarks.

# II. Background and Hypotheses

## A. Corporate Board and Corporate Political Activity

Firms actively engage in CPA in three ways. Firms could contribute financial resources to political formations and organizations through campaign contributions and donations (Hillman,

Keim, and Schuler, 2004; Akey, 2015). Second, firms could lobby, petitions, or comment on public policies (Schuler, Rehbein, and Cramer, 2002; Rajwani and Liedong, 2015). Third, firms could leverage their formal and informal relationship with political agents (Faccio, 2006). Passive or informal CPA through friendships (Faccio, 2006), familial relations, or through stockholdings by notable political personalities is an important and relevant mechanism through which firms influence public policy and curry favors (Gomez and Jomo, 1999; Johnson and Mitton, 2003). Nevertheless, in this study, we limit our inquiry to board-based formal CPA. It is because boards are the primary instrument of corporate control irrespective of the jurisdiction (Jensen and Meckling, 1976). Besides, board appointment-based formal CPA has symbolic and material implications (Hillman, 2005; Goldman, Rocholl, and So, 2009).

From a theoretical standpoint, agentic board composition theory (Adams and Ferreira, 2007), which bifurcates the board's role in monitoring executive actions and giving strategic advice and counsel, provides an inadequate rationale for why the firms need PC directors. Here resource-dependence view (RDV) allows theoretical clarity (Pfeffer and Salancik, 1978). RDV suggests that firms do not appoint PC directors on the board for executive monitoring but to enable governmental resource "co-option" (Hillman, 2005). Indeed, You and Du (2012) have documented that CEOs in Chinese PC firms are better insulated from dismissals, suggesting poor monitoring outcomes for the firms' shareholders.

If resource co-option is the primary motive to appoint PC directors, then institutional-quality features, i.e., corruption, trade restrictions, regulations, etcetera, likely play a determining role in their appointments. Faccio (2006) documents that firms in "corrupt" countries and the ones with higher "trade restrictions" are more likely to appoint politicians such as ministers and MPs to "squeeze the state" where informal ties may not be sufficient. Incidentally, Faccio (2006, pp. 380-381) also documents that countries with a "better legal environment" appoint fewer PC directors, even though her results are not statistically significant (see Faccio, 2006, Table 5, Model 3).

If firms in "corrupt" countries with weak institutions are likely to appoint politicians on their boards, what do firms in the superior quality institutions do for their political connections?

It is a vital concern since a formal CPA is a transparent mechanism of political connections. Whereas, informal CPA has a degree of secrecy and deniability built into the relationship. In countries with robust institutions, firms face a trade-off between corporate transparency and resource co-option due to public scrutiny from the electorate and other key stakeholders (Choi and Thum, 2009). Moreover, it is challenging to engineer resource co-option in countries with quality institutions since it requires greater strategic clarity and some bureaucratic opacity (Amore and Bennedsen, 2013).

If "squeezing the state" was the only underlying mechanism through which PC connections creates value for their firms, then it is unclear why investors perceive PC firms positively in countries such as the U.S., which has robust institutions (Hillman, 2005; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998). But not in Italy, where firms are opaque and require significant insider ownership for effective corporate control (Carretta et al., 2012).

Besides, prior studies are mostly silent about what social capital makes the politicians the only suitable candidates who could "co-opt" resources from the government (Hillman, 2005, p. 465). The academic focus on elected "politicians" has also skewed the literature towards only one government segment (Hillman, 2005; Faccio, 2006; Goldman et al., 2009; Hadani and Schuler, 2013). It has led to a vast theoretical and empirical void among political agents' heterogeneity that makes up a government in democratic societies (Moe, 2006; Wicks, 2003; Eichbaum and Shaw, 2007). This oversight is especially glaring since some of these political agents, such as bureaucrats and political advisers (Huntington, 1968), could bring unique forms of human and social capital to the board without drawing significant public scrutiny, including academic interest.

### B. Institutional Quality and PC Director Selection

Institutions that constrain firms' well-being and behavior (North, 1990) require people with special skills, training, experience, and expertise to set in motion the "rules of the game" or, in other words, "humanly devised constraints" (North, 1990, p. 3). The governments' executive

branch[2] is organized and managed by three types of political agents. They are, a. political executives (i.e., ministers), b. bureaucrats, and c. political advisers.

All three groups of political agents collaborate and compete with each other. Both outside and inside the corridors of power (Moe, 2006). Nevertheless, their skills, training, experience, administrative expertise, and appointment mechanism to their government jobs are vastly different. In essence, all three types of political agents acquire different types and forms of human and social capital through their governmental job entry mechanism. Here the human and social capital gained through their formal association with the institution of the government is defined as the "sum of actual and potential resources embedded within, available through, and derived from, the network of relationships possessed by that individual" (Nahapiet and Ghoshal, 1998, p. 243).

### 1. Political Executives

In democracies, political executives (i.e., ministers) are generally politicians who receive public mandate through elections in a cyclical manner. Once appointed to their public office as political executives, they are the "authorities" (Moe, 2006) responsible for enacting public-policies and regulations with which they could maximize their personal and the government's public support (Stigler, 1971). Legal scholars Natelson (2004) and Leib et al. (2012, p. 92) have argued that the constitutional and statutory "authority" that political executives wield through their public office is *fiduciary*. Leib et al. (2012, p. 92) state that "public office is a public trust," therefore, only a "fiduciary architecture" can help clarify how "political power should be exercised legitimately" by the political executives. Therefore, once a skilled elected representative acquires a public office to become political executives (i.e., ministers), their authority, social standing, public authority, and fiduciary responsibility changes dramatically. Because of the institutional legitimacy, authority, prominence, and fiduciary responsibilities of the public office, the political executives acquire a unique set of social capital, which includes public recognition and social

[2] In this theoretical framework, we ignore the role of the government's legislative (e.g., MPs) and judicial branches (e.g., judges). It is because only the government's executive branch most closely interacts with the firms through regulations and oversight mechanisms. Whereas, legislative and judicial branches' interaction with the firms is indirect and infrequent for a vast majority of the firms (e.g., legislation, dispute resolutions, etcetera). This notion bears out in the PC director data, as we will discuss later.

prominence. MPs and other elected representatives are also politicians (Faccio, 2006; Hillman, 2005). Nevertheless, since they do not hold political executive offices (i.e., ministerial portfolios), their social capital, which includes knowledge, skills, training, and public authority, is not comparable with that of the political executives.

### 2. Bureaucrats

In democracies, bureaucrats enter the government through professional channels rather than through general elections. As a result, bureaucrats have a lower public profile. Bureaucrats acquire their social capital through their long-run administrative work experience, bureaucratic training, and public-policy skills and expertise (Bendor et al., 1987) through their formal association with the government (Moe, 2006). Weber has argued that bureaucrats exercise their power over the administrative machinery of the government through their "expertise," which they wield by meeting mostly in "secret sessions" (Gerth and Mills, 1946, pp. 232-233). Bureaucrats' human and social capital is, therefore, vastly different from that of the political executives due mainly to their distinctly different entry mechanisms into the government and the roles and responsibilities they discharge through their position, which has technical aspects.

Weingast (1984) has argued that a bureaucratic agency problem exists between the political executives and the bureaucrats in a Weberian democratic bureaucracy (Gerth and Mills, 1946). In this framework, political executives are the principal, suffering from information asymmetry and with responsibility and authority to delegate power to the bureaucrats with the hope of competent, if not an efficient implementation of their public-policy platforms (Moe, 2006). In this structure of the exercise of the public authority in democratic governments, bureaucrats are the agents who wield power on behalf of the elected political executives. Bureaucrats formulate and administratively help pass legislation, which is congruent with their principal's, i.e., their political executives' public-policy platform. They also create, manage, and sometimes eliminate corporate regulations. Besides, they also manage important government institutions. It maximizes the political executives' public support, especially among crucial stakeholders such as special interest groups and labor unions (Stigler, 1971). Owing to the heterogeneity of democracy around the world, the bureaucratic agency could appear in "quite distinct forms in different policy fields,

levels of government and national contexts" (Meier and O'Toole Jr, 2006, p. 3). Due to the fundamentally different modes of entry in their government jobs in democratic societies, some form of bureaucratic agency problems between political executives and bureaucrats is inevitable, irrespective of its severity and the "national contexts."[3]

### 3. Political Advisers

Within a democratic political setup, political advisers are the "third element" who are "free to act and advise in a way that a politically impartial civil servant [i.e., bureaucrat] cannot" (Wicks, 2003, p. 43). They, too, have a lower public profile. Their role in the government is defined narrowly by their ability to provide technical advice in formulating public-policies and regulations. Political advisers are wholly dependent on political patronage for their appointment to their government jobs (Eichbaum and Shaw, 2007; Hustedt et al., 2017). Therefore, political advisers' social capital, based on their training, experience, and technical expertise, is acquired mostly outside the government. They are appointed to their government jobs precisely because they do not have a bureaucratic agentic relationship with the political executives or the bureaucrats (Moe, 2006; Eichbaum and Shaw, 2007).

### 4. Institutional Determinants of PC Directors

Political executives' public recognition and social prominence allow them to exploit weak institution-based countries' government functionaries to expropriate extractive resources for the private benefit to the "connected" firms (Fisman, 2001; Johnson and Mitton, 2003; Acemoglu and Robinson, 2012). Evidence from prior studies provides broad support of these views (Faccio, 2006; Faccio et al., 2006; Goldman et al., 2009). Besides, prior studies also document that *politician*-connected firms display undesirable corporate policies (Chaney, Faccio, and Parsley, 2011). Nevertheless, their role as bureaucratic principals puts them at an informational disadvantage despite their public authority and fiduciary duties, because of the broadness of their public roles'

[3] The heterogeneity of severity of bureaucratic agency problems across countries has minimal implications for our analysis. Instead, the different modes of entry into the government of the different political agents have implications for our analysis. This governmental entry mode allows the political agent to acquire a different social capital type, essential for their appointments to corporate boards.

scope, which involved devolution of the responsibilities of technical aspects of the implementation of public policies. Also, their significant public-profile makes them magnets for public criticism, including but not limited to academic scrutiny (Hillman, 2005; Faccio, 2006). Firms in countries with weaker institutions are likely to want to appoint politician directors for resource expropriation by "squeezing the state." Firms in such countries remain comfortable knowing that weaker institutions would discourage greater public scrutiny of their formal board appointments.

Firms in countries with higher quality institutions likely prefer to appoint bureaucrats to their boards for their primary political advice source. It is despite the risk of diminishing benefits as the quality of institutions increases. Bureaucrats' primary expertise is bureaucratic rules, procedures, regulations, and, most importantly, regulatory arbitrage opportunities, and other such shortcomings. This bureaucratic social capital's genesis lies in their technical experience and expertise in public policy implementation and through management activities in prominent government institutions (Huntington, 1968; Krammer, 2019; Ayyagari, Demirgüç-Kunt, and Maksimovic, 2014). They are also likely to have a wide-spread network within various governmental departments, making them ideal *institutional informants*.

Furthermore, bureaucrats have a lower public profile as their appointment to their governmental jobs is through administrative selections rather than general elections. While bureaucrats could also provide extractive resources to the firms, similar to political executives, their ability to do so likely diminishes with increasing institutional quality. Therefore, bureaucrats' "expertise" and agentic administrative social capital, including their lower public-profile (Nahapiet and Ghoshal, 1998), make them ideal candidates for board appointments in countries with well-functioning institutions.

Like political executives, political advisers are at an informational disadvantage, particularly regarding their government appointments. Their role and experience in the government are, at best, tenuous. Their government appointments are a form of political patronage in a limited capacity – as technical experts on a subject matter – rather than their insights about the government itself (Hustedt et al., 2017). They, too, are unlikely to find favor among firms in

countries with well-functioning institutions since their social capital is mostly generated outside the government rather than within it. Therefore, we test the following three sub-hypotheses.

**Hypothesis 1a**: *Institutional quality is negatively associated with the appointment of political executives on corporate boards*

**Hypothesis 1b**: *Institutional quality is positively associated with bureaucrats' appointment on corporate boards*

**Hypothesis 1c**: *Institutional quality is indifferent to the appointment of political advisers on corporate boards*

### C. Efficacy of the Institutional Informants

Prior literature suggests that optimal board appointments increase firms-value (Ahern and Dittmar, 2012; Fauver, Hung, Li, and Taboada, 2017). Several earlier studies have shown that the investors value political connections (Hillman et al., 1999; Hillman, 2005; Faccio, 2006; Hadani and Schuler, 2013; Goldman et al., 2009).

This stream of literature has some shortcomings and contradictions. The bulk of the research originates in the U.S., a country with developed institutions (La Porta et al., 1998). In such a country, the resources PC directors bring is likely of limited value. All studies use *politician*-directors to assess the firms' market value (Hillman, Zardkoohi, and Bierman, 1999; Hillman, 2005; Goldman, Rocholl, and So, 2009; Hadani and Schuler, 2013). Most studies report a significant positive association of *politician*-directors with firm value. Carretta et al. (2012), on the other hand, documented that *politician*-directors in Italy are not positively associated with positive financial performance. Therefore, as the second test of our prior propositions, we examine if the PC directors' efficacy in increasing firm-value is directionally consistent with their institutional demands. In other words, as the institutional quality increases, does the firms' market value (decreases) increases with having bureaucrats (political executives).

In the earlier sub-section, we suggest that political executives and bureaucrats bring different resources to the firm. The former primarily bring extractive resources, and the latter mostly bring advisory resources. If both resources are equally valuable (valueless) with

similar risk factors, then firms with political executives and bureaucrats would be perceived positively (non-significantly or negatively) in equal measure across the institutional cross-sectional heterogeneity.

Since the formal board-based relational CPA is one of the most transparent, political executives' high public-profile increases adverse public security. Co-opting extractive resources is a lengthy process, fraught with reputational challenges, especially in countries with superior institutional checks and balances (Choi and Thum, 2009). Therefore, firms with political executives are likely to have lower market value as institutional quality increases, considering the institutional limitations they are likely to face during resource extraction. In other words, firms with political executives are valued favorably by the market only when the countries have weak institutions where the firms could easily get away with resource extractions (Acemoglu and Robinson, 2012). It would also be directionally consistent with the lower demand of political executives by firms in countries with robust institutions.

Here firms with bureaucrat directors, who as an obscure institutional informant with low public-profile, owing to their administrative mode of entry into the government, have a distinct advantage as the institutional quality increases. Besides, the advisory resources brought in by the bureaucrats, developed through their long-run agentic experience within the bureaucracy is unlikely to muster similar public scrutiny even in countries with robust institutions. Therefore, consistent with their demand across institutional quality heterogeneity, we expect that the bureaucrat-connected firm's market value would also likely increase with institutional quality. A caveat to this expectation is that the bureaucrats' ability to advise the firms constructively decreases as institutions' quality increases, as we suggested in previous sub-sections (Easton and Walker, 1997; Gwartney et al., 1996). We formally state the following sub-hypotheses.

**Hypothesis 2a**: *Political executive directors are associated with the firms' decreased market performance as institutional quality increases*

**Hypothesis 2b**: *Bureaucrat directors are associated with the firms' increased market performance as institutional quality increases*

### D. The Bureaucrat Directors' Authority Puzzle

Weber has once suggested that the political executives would appear as a "dilettante" when confronting an administratively trained "expert" in the bureaucrats (Gerth and Mills, p. 232). Nevertheless, there is puzzlingly little academic attention paid to bureaucrats' corporate roles. In contrast, research related to politicians is vast and ever-growing (Rajwani and Liedong, 2015). In much of the literature, bureaucrats have received passing references, studied in different contexts (Jiang, Wan, and Zhao, 2016; Agarwal, Qian, Seru, and Zhang, 2020), or studied in China (which we exclude for reasons described later). Two recent papers come closest to examining the bureaucrats' contributions to the firm; they are by Jagolinzer et al. (2020) and Fan et al. (2020). Jagolinzer et al. study insider trading during the financial crisis using directors who have served in the U.S. economic bureaucracy and the legislative institution, the U.S. Congress. Unlike our study, Jagolinzer et al. do not make a theoretical or empirical distinction between the individuals based on their mode of entry into their government jobs.

Fan et al. studies CEOs who were formerly Chinese bureaucrats. On the surface, it would appear that Chinese "bureaucrats" are similar to our definition of bureaucrats. However, as discussed later in some detail, since China is not an electoral democracy (Freedom House, 2020), Chinese bureaucrats hold the political executive role (Moe, 2006) and administrative responsibility (Huntington, 1968). Therefore, they have public authority and fiduciary duties (Natelson, 2004; Leib et al., 2012), a role that is customarily discharged by political executives in electoral democracies. In Weberian democratic bureaucracy, bureaucrats have administrative responsibility but not a public authority and limited fiduciary duties.

It is well known in political science that multiple political agents run Weberian governments and that politicians are just one among them (Bendor et al., 1987; Weingast, 1984; Moe, 2006), albeit with greater visibility and public authority. We posit that there

could be two potential reasons why bureaucrats suffered from academic oversight—first, data unavailability, and second, a perception of insufficient public authority. Data unavailability is a legitimate concern that affects all. Nevertheless, countless studies have investigated politicians by collecting PC board data from various sources (Hillman, 2005; Faccio, 2006). Therefore, the most plausible explanation lies in the second argument.

Seminal studies such as by Hillman (2005, p. 465) and Faccio (2006) set the tone of the research by focusing on politicians who were perceived to be "individuals with access or influence to the government." However, political economy studies, such as Ehrlich and Lui (1999) and Treisman (2000), suggest that bureaucrats play an essential role in the government, have access to bureaucratic power, and administratively control the government machinery. Nevertheless, is this sufficient for them to have "access" and remain "influential" post-retirement? Do they receive board appointments among consequential firms and receive adequate respect from them when appointed on boards? These questions are especially relevant since bureaucrats could accept corporate board appointments in non-state-owned public firms only after they depart from their government jobs. Using firms in the heavy industries, we formally test if ignoring bureaucrats' corporate role was legitimate or academic oversight.

Prior literature suggests that firms in heavy industries face considerable uncertainty and risks from their regulated external environment and have a broader need for political connections (Mahon and Murray Jr, 1981; Lang and Lockhart, 1990). Heavy industry firms not only require government resource and functionaries' "co-option" (Hillman, 2005; Hadani and Schuler, 2013) but also need sound corporate political advice to navigate the government bureaucracy to muster contracts and licenses (Dierkes and Preston, 1977). That is only possible if firms in the heavy industries appoint PC directors who could not only command authority and influence present politicians and policy-makers but also know the intricacies of the bureaucratic government to identify regulatory arbitrage opportunities. Therefore, if heavy industry firms perceive only politicians as the most authoritatively

prominent and value-adding PC directors with "access" and "influence," there would be a significantly higher demand for their board services than the bureaucrats.

A conservative test of our proposition is through the moderating role played by institutional quality. In the previous sections, we suggested that PC directors' effectiveness in benefiting the firms is likely to diminish with increasing institutional quality. As institutional quality increases, governments become smaller and more efficient, property rights become secure, a stable currency is readily available, and trade regulations have certainty. Besides, rules and regulations are sparse and clearly defined (Easton and Walker, 1997; Gwartney et al., 1996). Under these conditions, both extractive and advisory benefits that PC directors could bring to the board are increasingly likely to yield lower returns. Board in the heavy industries, mindful of their direct political connection requirements and owing to the scarcity of available board seats, may perceive that politicians likely provide a broader gamut of advantages. Corporate legitimacy and regulatory enforcement deterrence due to their perceived higher authority within the government are just a few other examples (Hadani et al., 2018; Hillman, 2005). Whereas, if bureaucrats provide only narrowly defined advisory advantages due to their lower perceived public authority, their demand is likely to impair at an accelerated pace as institutional quality increases across countries. Therefore, we test if bureaucrats' representation moderates faster among heavy-industry firms than political executives with increasing institutional quality. We state the formal hypotheses as follows.

**Hypothesis 3 (Null)**: *Political executives' and bureaucrat directors' demand in heavy industries decline with the increase in institutional quality at the rate which is not significantly different*

**Hypothesis 3a**: *Bureaucrat directors' demand in heavy industries decline with the increase in institutional quality at a significantly faster rate than political executives'*

# III. Research Design

## A. Sample

We collect the data for this study from six different sources. Accounting and market data are from the Worldscope database available on the DataStream. From the BoardEx database, we collect the cross-country director profiles. From its "Director Profile – Employment" files, we collect the starting sample of directors with any governmental work history. Since there were considerable gaps in the directors' governmental employment history data, we hand-collect the missing information. In the next sub-section, we discuss our hand-collection method.

We gather the publicly available institutional data from the Fraser Institute's and Heritage Foundation's websites. Several prior studies in different disciplines have used Fraser Institute's Economic Freedom score to model institutional quality (Easton and Walker, 1997; Gwartney et al., 1996; Chen, Chen, and Jin, 2015; Tashman, Marano, and Kostova, 2019). To ensure our selection of institutional data does not drive our results, we use Heritage Foundations' Index of Economic Freedom as our second measure of institutional quality (Li, Lin, and Xu, 2020; Miller, Kim, Roberts, and Tyrrell, 2020).

We utilize prior studies to code the heavy industry variable (Dierkes and Preston, 1977; Lin and Li, 2014). We collect the data on political parties in power and their political orientation from the Database of Political Institutions (Cruz, Keefer, and Scartascini, 2016; Kim, 2019). Lastly, we collect country-level variables from the World Bank's online database and minority shareholders' rights data from Guillén and Capron's (2016) website.

Financial (SIC 6000-6999) and utility sector (SIC 4900-4950) firms have considerable variations in how governments worldwide own and regulate these firms. It makes it difficult to judge how much control governments have over these firms. Therefore, calculating their financial performance is difficult. We exclude financial and utility sector firms from our sample. Consequently, we retain only industrial sector firms for all our analysis. We exclude countries with less than eight years of BoardEx data. This way, we eliminate small countries with only a limited number of publicly listed firms. We also exclude firms with negative book-to-market ratios due to

their high default risk. After matching the BoardEx data with that of Worldscope, we exclude firms that had missing firm-year controls.

We exclude the U.S. from our sample for reasons that we will discuss in the later sections. We exclude China[4] and Russia from our sample since our hypotheses development depends on the governmental agentic relationship within a democratic framework (Fan, Wong, and Zhang, 2007; Cheung, Rau, and Stouraitis, 2010; Sun, Mellahi, Wright, and Xu, 2015; Chizema, Liu, Lu, and Gao, 2015; Fan, Huang, Oberholzer-Gee, and Zhao, 2020)[5]. Both these countries are classified as "Not Free" by Freedom House's 2020 report (Freedom House, 2020). Therefore, we only retain democratic countries with "Free" and "Partly Free" status in the Freedom House's 2020 report.

Our sample selection criteria resulted in 22,815 firm-year observations from 4,951 unique stock-exchange listed public firms from 29 countries worldwide between the years 2000-2015. We report the sample statistics in Table 1.

|Insert Table 1 here|

### B. Identifying Politically-Connected Directors

Since our focus is on PC directors', our objective is not only to identify prominent personalities, i.e., "member of parliament, a minister, or [directors] closely related to a top politician or party" (Faccio, 2006, p. 369) but to create an exhaustive list of political connections. Our study requires that we identify not only politicians (ministers and MPs) but also bureaucrats,

[4] Recent security legislation in China for Hong Kong is likely to severely impede the latter's democratic freedoms (BBC, 2020). Our analysis stops in the year 2015 when such legislation was not available. As an additional robustness test, we exclude Hong Kong to estimate all our models to find qualitatively similar results. However, we retain Hong Kong for our primary analysis here as it was rated "Partly Free" by Freedom House throughout our sample years.

[5] These papers set in China explore the heterogeneity of political connections. However, China is a "Not Free" (Freedom House, 2020) single-party state, not an electoral democracy. Whereas, our theoretical framework is predicated on the democratic election of the political executives and the selection of bureaucrats through various technical means (entrance exams, interviews, etcetera). Therefore, our theoretical framework does not apply to China. In essence, China's political executives and bureaucrats get selected through the same methods, which allows a different form of bureaucratic agency concern to emerge. Just not the one we describe in this study. Therefore, such studies' PC director identification is theoretically similar to that of Lester et al.'s (Lester, Hillman, Zardkoohi, and Cannella Jr., 2008), albeit in different political economies.

political advisers, military personnel[6], and prominent members of the judicial bureaucracy[7]. Therefore, while we incorporate some practices to identify PC directors from prior literature (Faccio, 2006; Faccio and Hsu, 2017), our identification strategy also deviates considerably. We exclude indirect forms of CPA, such as friendships (Gomez and Jomo, 1999; Johnson and Mitton, 2003), familial relations with politicians, or corporate shareholdings (Faccio, 2006), etcetera.

We adopt a ground-up PC directors' background search method. Therefore, our PC director identification begins with BoardEx's "Director Profile – Employment" files. BoardEx has four different Director Profile – Employment files, representing various geographic locations: Europe, North America, United Kingdom, and the Rest of the World, respectively. We integrate all four geographic files to create a global sample. Therein we focus on the "Historic Non-Board Role" sub-file. In this sub-file, BoardEx gives multiple non-corporate employment history of the corporate directors as line items. We identify all directors who have governmental jobs and sort them into four groups: ministerial jobs, bureaucratic jobs, governmental advisory jobs, and military jobs. This way, we identify over 46 thousand unique directors who had government-related jobs in the past, across the world (2,050 ministers, 37,683 bureaucrats and advisers, and 7,745 military personnel; this sample includes the U.S.).

BoardEx's Historic Non-Board Role data had several missing observations and incomplete line items, making the director identification challenging. To ensure our background identification strategy's reliability, we use a manual internet-based hand-collection search technique to fill in the missing gaps (Faccio, 2006). Before embarking on the online search, we adopt some basic guiding principles. Out of privacy concerns, we refrained from using any individual's private social media channels such as *Facebook*, *Twitter*, etcetera. We found most of our directors' background information on professional websites such as *LinkedIn* or authoritative online sources such as

[6] We exclude military-experienced directors from our study as their life experiences, and corporate values are considerably different from those of civilian-experienced directors (Benmelech and Frydman, 2015; Koch-Bayram and Wernicke, 2018). Since we have a clean cross-country identification of the military directors, the risk of misidentification of the civilian-experienced PC director is low.

[7] During our data cleaning, we did not find many judges appointed on corporate boards. Most of the judges we did find were from the military, whom we excluded from our primary analyses.

*Bloomberg*, *Forbes*, and *MarketScreener*. Other online sources were government websites (parliament websites), beta.companieshouse.gov.uk (for the UK), managementscope.nl (Netherlands), etcetera. Suppose we could not verify the governmental role information given in the BoardEx's Historic Non-Board Role sub-file from online sources for any given director. In that case, we do not officially code a particular individual as a PC director. For a director to remain in our sample, they should have a governmental role with a clear identification of their role description or designation, and a specific job end date. We use the job end date to establish the PC directors' "former" status and avoid identifying directors whose government roles are in the future. Therefore, we exclude all PC directors for whom we could not identify and confirm their governmental role through online sources.

To qualify as a *MINISTER*, a director must hold a senior political executive office (i.e., elected office), mostly at the federal[8] level. We disregard any individual who holds elected city-level or municipality-level public offices.

To qualify as *BUREAUCRATS*, an individual cannot ever hold an elected executive office at any government level, i.e., they cannot be *MINISTERS*. Second, all bureaucratic individuals have to be in senior positions, i.e., CEO, Chair, Directors (sometimes also called Managing Directors, or equivalents) of public institutions or senior roles in the administration (i.e., Permanent Secretary in the UK, or equivalents). We eliminate all individuals who hold mid-level or low-level bureaucratic jobs from our identification of *Bureaucrats*. Some examples of prominent bureaucrats across countries are as follows: Permanent Secretary in the Ministry of Transport (Singapore), Chief Executive Officer (CEO) of the National Health Service in the United Kingdom (UK), among others.

[8] For non-U.S. sample individuals, PC directors mostly have had federal level jobs. Some also had governmental jobs in the provinces or states, but they were an exception. Our principal analysis retained the PC directors with regional-level jobs since they were a select few, which did not change our sample's primary composition. However, since we have a clear identification of the governmental roles and the federal versus regional institutions they were associated with, we exclude them with qualitatively similar results for robustness.

To qualify as a political *ADVISER*, an individual cannot hold ministerial or bureaucratic roles. If we find that an individual holds any other position later in their career, we qualify them as *MINISTER* or *BUREAUCRAT*, respectively. A typical example of a political *ADVISER* is the Technical Adviser to the Minister of Transport in France or equivalents.

Finally, none of the PC director individuals can have a military background. If we find any of the individuals (*MINISTER*, *BUREAUCRATS*, or *ADVISERS*) to have a military background, we only identify them as *MILITARY*. We exclude all the *MILITARY* directors from our analysis since their training and the governmental role is considerably different from civilian-only individuals (Benmelech and Frydman, 2015; Koch-Bayram and Wernicke, 2018).

For a randomly selected sub-sample of unique PC directors that is representative of our sample, in addition to their identification, we mapped their full tenure in their government roles to accurately approximate the number of years they have spent in the government. For *MINISTERS* and *ADVISERS*, we counted the number of years they have served in any ministerial position or political advisory position, respectively, irrespective of their portfolios (also sometimes known as departments). For *BUREAUCRATS*, we counted all the years the government employed them as a bureaucratic functionary. For them, we counted not only their focal "senior" position in the government but also all the formative years they have served in the government as low- and mid-level bureaucrats.

During our identification process, we noticed that in almost all non-U.S. countries, most bureaucrats who occupied board seats in listed firms are from the federal governments. Only a handful of them came from the city-level and regional bureaucracies. However, in the U.S., a considerably large proportion of the *BUREAUCRATS* were from the state-level bureaucracies. Therefore, state-level bureaucrats' inclusion as corporate directors are not incidental to U.S. firms but a systematic selection process. It is not surprising as several U.S. states have considerably large economies and state bureaucracies to match. The U.S. also has a vastly complex federal versus state government institutions with overlapping jurisdictions compared to other smaller democratic countries (Bendor et al., 1987). Besides, the U.S. is a vast country that generally

constitutes over 50 percent of the global BoardEx sample, which creates generalizability concerns. Therefore, taking a conservative approach, we exclude the U.S. from our analysis.

With this identification strategy in place, we retain 4,842 unique PC directors (493 *MINISTERS*[9], 4,175 *BUREAUCRATS*, and 174 *ADVISERS*) in our sample firms. We report the number of unique cross-country PC directors in Panel A of Table 2. In this panel, we also report the proportion of *MINISTERS*, *BUREAUCRATS*, and *ADVISERS* we have identified using our search method across countries. We find that *BUREAUCRATS* are the leading political-connections across most countries (median over 80 percent; average 63 percent) with *MINISTERS* coming a distant second at about a median 16 percent (average 34 percent). *ADVISERS* are about a 2 percent median (3 percent average) of the political connections.

In Panel B, we report the *GOVERNMENT_TENURE* of a sub-sample of unique directors for whom we investigated their full government background. We find that *BUREAUCRATS*, on average, has 22 years of bureaucratic government experience. It is nearly five times more government experience than the *MINISTERS* in their political executives' role and seven times more than the *ADVISERS*.

|Insert Table 2 here|

As shown in Table 1, a critical research design success in this study is the ground-up identification of PC directors' background. Faccio's (2006) identification strategy, which included

[9] Our identification of *Ministers* is closest to Faccio's (2006) definition of political connections. However, in our identification strategy, we do not consider PC directors' shareholding in the firms as it is an indirect form of PC. Faccio (2006) identified MPs as PC according to her identification strategy. Even though MPs are elected politicians, we exclude them from our study (N=42 individuals; 1 percent of our firm-year observations have MPs as directors). Unlike political executives, MPs do not receive frequent appointed on boards. They also do not hold any executive role in the government. Therefore, they are unable to build the same type of social capital as *Ministers*. MPs are also neither bureaucrats nor are they political advisers. Prior literature makes no distinction between the type of political appointments politicians receive when they are in public service (Faccio, 2006; Jagolinzer, Larcker, Ormazabal, and Taylor, 2020). Owing to our theoretical considerations, we, therefore, cannot place MPs in any three groups of political agents due to their non-agentic role in the government. Nevertheless, once an MP acquires a ministerial berth in the government, they are immediately included in the ministerial director pool. Besides, in some countries, such as the U.K., MPs can serve on corporate boards and fulfill their legislative roles (Thompson and Dar, 2015, p. 26). However, all our *Minister*-based analyses are qualitatively similar if we include MPs in the same pool of individuals.

ministers and MPs, resulted in 1.99 percent PC firms [the figures increased to 2.8 percent and 4.2[10] percent respectively in Faccio's (2010) study and Chaney et al.'s (2011) study]. Without the MPs, about 12 percent of our sample firms are *MINISTER*-connected. Over 50 percent of firms have *BUREAUCRATS*, and about 5 percent of the firms have *ADVISERS* on board.

### C. Variables

#### 1. Politically-Connected Directors

We use proportions per *BOARD_SIZE* to calculate the firm-level measures of *MINISTERS*, *BUREAUCRATS*, and *ADVISERS*. For robustness, we also use firm-level indicator variables that identify a firm-year observation as one (zero otherwise) if they have *MINISTERS*, *BUREAUCRATS*, or *ADVISERS*, respectively. Our results are qualitatively similar when we use the firm-level indicator variables as the dependent in our regressions. We use Logit and Probit estimators with all necessary controls when we use the indicator variables as the dependent.

#### 2. Measuring Institutional Quality

We use the Fraser Institute's *ECONOMIC_FREEDOM* score to measure institutional quality. Fraser Institute based their *ECONOMIC_FREEDOM* score on the studies by Easton and Walker (1997) and Gwartney et al. (1996). They use five equal-weighted pillars of country-level economic and public policy institutions. They are *SIZE_OF_GOVERNMENT*, *LEGAL_SYSTEM_AND_PROPERTY_RIGHTS*, *SOUND_MONEY*, *FREEDOM_TO_TRADE_INTERNATIONALLY*, and *REGULATIONS*. They construct these five pillars based on 43 sub-scores, which they code on a 0-10 scale, 10 being the highest (see Table 1 in Vásquez and Porčnik, 2019, p. 18). We transform the 0-10-point *FRASER_ECONOMIC_FREEDOM* scores into a log scale for better distributional properties. We use each of the five constituents of the *ECONOMIC_FREEDOM* score (also in log scale) for our additional analysis.

[10] These figures include the U.S.

As discussed earlier, we use the Heritage Foundation's overall *Economic Freedom* Index as our second measure of institutional quality. Heritage Foundation calculates its overall *Economic Freedom* Index using 12 specific sub-components, graded on a 0-100-point scale. Heritage Foundation places these sub-components into four sections: they are *RULE_OF_LAW*, *GOVERNMENT_SIZE*, *REGULATORY_EFFICIENCY,* and *MARKET_OPENNESS*. We use the overall *HERITAGE_ECONOMIC_FREEDOM* index as a percentage by dividing the 0-100 overall score by 100.

**3. Heavy Industries**

We identify heavy industries based on the classifications we found in prior research. Dierkes and Preston (1977) have suggested that coal, oil, chemicals, lumber and paper, iron and steel industries are some of the most "obvious" (p. 6) choices for heavy and extractive industries. Lin and Li (2014) contribute to this literature by developing a comprehensive list of SIC 2-digit codes for "heavy" industries, which they build based on a classification system designed in China. We match the 2-digit SIC codes with Fama and French's 48-industry classification system (1997). Then we code all the industries as one if they fall under the following categories, else zero: Drugs, Chemicals, Rubber, Building Material, Steel, Machinery, Electrical Equipment, Automobiles, Aero, Shipping, Gold, Mines, Coal, Oil, Paper, Logistics, and Transportation. This identification of heavy industries also subsumes extractive sectors as identified by other studies (Hillman, 2005; Faccio, 2006; Goldman et al., 2009; Carretta et al., 2012).

**4. Measuring Market Performance**

We measure the firms' market performance or firm-value using *RETURNS*. We calculate the continuously compounding one-year buy-and-hold *RETURNS* as the mean-difference of the natural logarithm of a firm's market capitalization between the years *t* and *t-1.* All our results are consistent if we use simple one-year buy-and-hold *RETURNS*. *RETURNS* are a widely used measure of firm-value, which has attractive distributional properties. *RETURNS* vary between -1 and +1, unlike *TOBIN'S_Q*, which is left-censored (Amemiya, 1984). Besides, *RETURNS* are not dependent on financial accounting figures,

which are susceptible to measurement errors in a cross-country sample owing to different financial reporting standards (Lewellen and Badrinath, 1997). Besides, we also use *TOBIN'S_Q* and *PROFITABILITY* for robustness.

### 5. Other Variables

To ensure that observable omitted features do not drive our results, we follow prior literature (Fauver, Hung, Li, and Taboada, 2017; Tashman et al., 2019) and include several firm-, board- and country-level controls. We control for the firms' prospects and current performance using *TOBIN'S_Q* and *PROFITABILITY*. We control the firm size and degree of internationalization using *FIRM_SIZE (LOG)* and *FOREIGN_ASSETS*. We control for the operating risks using *LEVERAGE* and *CASH_HOLDINGS*. We control for the firm's innovation investments and capital spending using *R&D* and *CAPX*. We include *Ownership* controls to ensure that agency concern does not drive our results (Jensen and Meckling, 1976). We measure *Ownership* concentration using the share of common stocks owned by insiders, institutional investors (corporations, etcetera), governments, and the firms' employees. We also measure ownership by the percentage of common stock owned by the corporate insiders alone for robustness. Our results are qualitatively unchanged. At the board-level, we control for the *BOARD_SIZE* (LOG) and the level of *BOARD_INDEPENDENCE*.

Since firm-level analysis cannot control individual-level features, we also perform our primary analysis at the director-level. Here we control for the directors' corporate role, expertise, experience, and demographics. We identify and code a dummy variable *CEO,* which takes the value one if the director is the firm's CEO, else zero. *DUALITY* takes the value one if the director is the CEO and the Board Chair, else zero. *INDEPENDENT* takes the value one if the director occupies a non-executive role within the board, else zero. The Board Chair takes the value one if the director chairs the board, else zero. We use corporate role descriptions such as "Finance Director," "Financial Manager," etcetera, to identify if a director has financial expertise. Therefore, the indicator *FINANCIAL_EXPERTISE* takes the value one if the director has served in any finance or accounting positions, else zero. We

measure *BOARD_TENURE* by counting the number of years the director has served on its corporate board. *CERTIFIED_DIRECTOR* takes the value one if the inside director (executives) has outside board affiliation on a listed firm, zero otherwise (Masulis and Mobbs, 2011). We calculate the number of outside board affiliations of all directors using the variable *OUTSIDE_AFFILIATIONS*. We use *AGE* and the indicator variable *WOMAN* to identify the basic demographic information of the directors. We also include *NUM._OF_COMMITTEES*, *COMPENSATION,* and *NUM._OF_QUALIFICATIONS* for additional analyses.

In a cross-country study, it is vital to ensure that country-level observable features do not drive our results. Guided by prior literature, we include six country-level controls. Several countries in our sample mandate or allow a two-tier board structure. We use the dummy *DUAL_BOARD,* which we code one for countries that mandate or allow a two-tier board structure (Denis and McConnell, 2003; Ferreira and Kirchmaier, 2013), otherwise zero. We use the individual-level dummy variable *SUPERVISORY_DIRECTOR* for directors in the supervisory board in countries that allow or mandate a two-tier board system for robustness. Our results are qualitatively similar, using this variable both for the firm-level and director-level analysis. When we use *SUPERVISORY_DIRECTOR* as a control, we use it instead of the *DUAL_BOARD*. Several countries in our sample have adopted coercive board gender quotas for their corporate boards (Ahern and Dittmar, 2012). To control for such public-policies driving our results, we code a *GENDER_QUOTA* dummy as one starting the year legislative bodies passed such a law, irrespective of its official compliance date, zero otherwise. We control for time-varying country-level differences using *GDP_PER_CAPITA* (Fauver et al., 2017). Prior studies have suggested that minority shareholders receive varying degrees of protection across different countries, affecting how the firms there configure their boards (La Porta et al., 1998). We use Guillén and Capron's (2016) time-varying Minority Shareholders' Rights Index (*GUILLÉN_CAPRON_SRI*) to control it. Alternatively, we use an indicator variable that

identifies the countries with a code-law origin (La Porta et al., 1998; Fauver et al., 2017), with qualitatively similar results.

The political orientation of the political party in power could potentially drive the appointment of PC directors. Prior literature suggests that while there are variations across countries and political parties, some ideological convergences exists on aspects of public-policies concerning markets and trade (Dutt and Mitra, 2005). Guided by prior literature (Beck, Clarke, Groff, Keefer, and Walsh, 2001), we use the Database of Political Institutions' (Cruz et al., 2016) codification of the political orientation of political parties' that holds power in any country as a separate control. We code a dummy variable *CONSERVATIVE_GOVT* one in the years a "Center" or "Right"-wing political party is in power, else zero. If the political orientation of a party in power was unclear or missing (e.g., Hong Kong), we coded them as zero.

We describe the method used to create the variables, including the data sources in Appendix A.

# IV. Results

## A. Sample Description

In Table 3, we report the descriptive statistics for our firm-level and director-level sample. In Panel A of Table 3, we report the firm-level sample descriptive statistics. In Panel B, we report the *FRASER_ECONOMIC_FREEDOM* scores' breakdown into its five core components. In Panel C, we report the sample descriptive statistics of the directors' corporate role, expertise, experience, and demographic information. In Panel C, we exclude reporting on some variables such as board independence, which we also measure at the firm-level.

We find that *BUREAUCRATS* occupy close to 9 percent of the board seats in our sample from the firm-level descriptive statistics (Panel A). *MINISTERS* constitute about 1 percent of the

boards[11], whereas *ADVISERS* constitute about 0.3 percent. We find that other firm characteristics are similar to prior studies (Fauver et al., 2017).

|Insert Table 3 here|

## B. Institutional Quality and Institutional Informants

To test our hypothesis 1, we estimate Equation 1. In this model, the dependent variables are the Board PC: *MINISTERS*, *BUREAUCRATS*, and *ADVISERS*. Here X represents a set of one-year lagged firm-, board- and country-level controls for the firm-level analysis. The X also represents the directors' corporate roles, expertise, experience, and demographic information for the director-level analysis (we do not lag these controls for our director-level analysis). Our data has a panel structure where we observe a cross-section of firms over several years. Therefore, we introduce a full set of group controls, such as Year Fixed-Effects and Industry Fixed-Effects.

$$Board\ PC = \alpha\ Economic\ Freedom + \beta \sum X + \sum Group\ Effects + \varepsilon \quad \text{(Equation 1)}$$

In Panel A of Table 4, we report on the firm-level results. In column (1), (2), and (3), the dependent variables are *MINISTERS*, *BUREAUCRATS,* and *ADVISERS*, respectively. In these columns, the primary explanatory variable is *FRASER_ECONOMIC_FREEDOM* (LN). We maintain the same order in the columns (4), (5), and (6), respectively, where the primary explanatory variable is *HERITAGE_ECONOMIC_FREEDOM*. We retain all the firm-, board-, and country-level controls, as discussed in previous sections. Since the dependent variables in Equation 1 are constrained between the range 0-100 percent, similar to prior studies (Faccio, 2006), we adopt the Tobit estimator (Amemiya, 1984).

In column (1) and (4), we find that both *Fraser Economic Freedom* and *HERITAGE_ECONOMIC_FREEDOM* are negatively associated with *MINISTERS* at the conventional level of statistical confidence ($p<0.01$). In column (2) and (5), *FRASER_ECONOMIC_FREEDOM* and *HERITAGE_ECONOMIC_FREEDOM* are significantly positively associated with *BUREAUCRATS* ($p<0.01$). In column (3) and (6), both explanatory variables' relationship with *ADVISERS* is statistically insignificant.

[11] Please note that the board seat proportions are understated as we calculate the sample average by including the firms with no PC directors.

In Panel B, we repeat the same analysis but using director-level data. A vital advantage of this form of analysis is that we can control individual-level features that we cannot control in firm-level analysis. Since the dependent variables are a set of binary indicators which takes the value one when the director is the relevant PC director, we use the Logit estimator for this analysis (our results are qualitatively similar if we use the Probit estimator). Our director-level results in Panel B supports the firm-level analysis in Panel A. The direction of the coefficients are all consistent, and the statistical significances are at the conventional levels of confidence ($p<0.01$).

To ensure the robustness of these results, we performed additional tests that we have not reported. Our reported results do not include the other dependent variables as separate controls when we estimate our primary models. For instance, in the column (1), Panel A, when the dependent variable is *MINISTERS*, we do not control for the firm-level proportion of *BUREAUCRATS* or *ADVISERS* to avoid overidentifying our models. As a robustness check, when we include such controls, our results remain unaffected. Next, since the firm-level analysis uses board proportions, it is plausible that those results are an artifact of changing board size, which is the denominator used to calculate the Board PC variables. To ensure that this is not the case, we implement a panel count random-effect Poisson model (Wooldridge, 2005). In this model, the dependent variable is the count of *MINISTERS*, *BUREAUCRATS,* and *ADVISERS*, respectively, which we observe across the firm-year panel. Besides, we also estimate our firm-level models using a random-effect panel data Tobit model and using a Propensity Score Matched (PSM) sample of firms (Guo and Fraser, 2015). We will discuss the matching process in the following sections. All these additional tests provide broad support to our primary results that we report in Table 4. These results, taken together, support our hypotheses 1a, 1b, and 1c, respectively. To further attest to these results, in Figure 1, we show how countries appoint *MINISTERS* and *BUREAUCRATS* across the cross-section of *FRASER_ECONOMIC_FREEDOM* scores.

|Insert Table 4 here| and |Insert Figure 1 here|

## C. Disaggregated Institutional Quality and Institutional Informants

Fraser Institute and Heritage Foundation base their aggregate economic freedom scores on several types of governance, economic, and regulatory sub-scores, as we discuss earlier. In this subsection, we focus on the *FRASER_ECONOMIC_FREEDOM*'s five breakdown scores to assess how sub-types of institutions differently affect PC directors' appointments across countries. The five breakdown scores are *FRASER_SIZE_OF_GOVERNMENT*, *FRASER_LEGAL_SYSTEM_AND_PROPERTY_RIGHTS*, *FRASER_SOUND_MONEY*, *FRASER_FREEDOM_ TO_TRADE_INTERNATIONALLY*, and *FRASER_REGULATION*[12]. Our objectives for this analysis are two-fold. To ensure that a broad spectrum of the institutional quality measures supports our results and to identify the points of divergences.

We estimate Equation 1 with the breakdown measures of *FRASER_ECONOMIC_FREEDOM* scores as our primary explanatory variables. We report the results in Table 5. In this table, we refrain from reporting results related to *ADVISERS* since they are qualitatively similar to our prior findings, i.e., not significant. When the dependent variable is *MINISTERS*, we find that three out of five explanatory variables are statistically significant ($p<0.01$) with negative coefficients. The explanatory variables with significantly negative coefficients are *FRASER_LEGAL_SYSTEM_AND_PROPERTY_RIGHTS*, *FRASER_FREEDOM_ TO_TRADE_INTERNATIONALLY*, and *FRASER_REGULATION*. *FRASER_SIZE_OF_GOVERNMENT* has the right coefficient sign, but it is not statistically significant. Only *FRASER_SOUND_MONEY* has a coefficient sign that is different from the rest, even though it too is not statistically significant. When *BUREAUCRATS* is the dependent variable, except *FRASER_SOUND_MONEY,* all others have the right statistically significant coefficient signs ($p<0.01$). Therefore, from these results, we could conclude that our initial findings

[12] The most logical Heritage Foundation equivalents to these sub-scores in the same order are as follows. *HERITAGE_GOVERNMENT_SPENDING*, *HERITAGE_PROPERTY_RIGHTS*, *HERITAGE_MONETARY_FREEDOM*, *HERITAGE_TRADE_FREEDOM,* and *HERITAGE_BUSINESS_FREEDOM*. All our results are qualitatively similar, using these scores as well, with minor exceptions. We do not tabulate these results.

enjoy broad support. More importantly, the countries' monitory policies and related institutions have minimal bearing on the way firms select PC directors.

|Insert Table 5 here|

## D. Market Performance

This sub-section investigates how effective the PC directors are in increasing the firms' market performance (firm-value) across the institutional quality cross-section. For this test, we estimate Equation 4. In this model, our dependent variable is a one-year buy-and-hold *RETURN* (ln). The relationship between board appointments and market performance suffers from pronounced endogeneity risks (Hermalin and Weisbach, 1998). Therefore, we adopt a two-stage least square (2SLS) estimation technique for this analysis. We follow prior literature and use the country-industry-year average levels of each type of the proportion of the political connections as our instrumental variable (IV) (Laeven and Levine, 2009; Faccio, Marchica, and Mura, 2016; Ye, Deng, Liu, Szewczyk, and Chen, 2019). Prior research suggests that country-level industry-year average proportion of political connections is a useful instrument (Laeven and Levine, 2009; Ye et al., 2019). The industry-average proportion of PC directors is likely correlated with the firms' propensity to appoint PC directors. However, it is unlikely that the firms' market performance would depend on the industry average levels of PC. It would mean that the country-level industry-year average proportion of political connections would meet the IV criteria. In the first stage of the 2SLS model, the dependent variable is the Board PC, and the primary independent variable is the country-level industry-year average proportion of PC. In the second stage, we use the predicted values from the first stage. Here, Equation 4 represents the second stage of the regression.

$$Return = \beta\ PC\ Board + \gamma \sum X + \sum Group\ Effects + \varepsilon \quad \text{(Equation 4)}$$

Following prior literature, we use the random-effect estimation technique in each stage of the 2SLS model (Yuan, Pangarkar, and Wu, 2016; Li and Greenwood, 2004; Enright, 2009). This way, we retain time-invariant industry dummies, a necessary factor in our tests as cross-sectional firm-valuation likely varies across industries. Random-effect GLS estimator has attractive empirical properties such as long-period extrapolation, which is unavailable under a fixed-effect

model owing to the normality assumptions associated with the error term (Li and Greenwood, 2004). This property is especially useful in our context as we attempt to assess the long-run market performance of specific board features. Besides, random-effect models absorb the unobserved effects from omitted variables, which reduces any bias caused by the fixed-effect estimator (Enright, 2009). Finally, in all our models, we control for time-varying features using a year dummy. In all our models, we calculate the robust standard errors clustered by the firm[13].

To test our hypothesis 2, we adopt a non-parametric technique. We estimate the regression coefficients on *RETURNS* by sorting the firm-year observations into institutional quality tertiles (our results are directionally consistent if we sort the firms into quartiles or quintiles). In the Low tertile, the institutional quality is weak, whereas, in the High tertile, the institutional quality is strong. We test if the PC directors' firms' market performance increases (decreases) with the increase (decrease) in institutional quality by performing a coefficient mean difference Z-test, as shown in the Equation 5 (Paternoster, Brame, Mazerolle, and Piquero, 1998). In this test, *SE* is the respective regression standard errors. It is similar in principle to the interaction-based test in which the Board PC interacts with indicator variables that contain a tertile identifier. In empirical research, scholars from a broad cross-section of fields widely use Paternoster et al. type Z-test. Its main advantage is that making economic inferences using it is much easier than interaction-based tests, especially for 2SLS type models. All our results are similar using the interaction-based tests using *RETURNS* or *TOBIN'S_Q* as market performance measures. We have not tabulated the interaction-based tests, but they are available on request.

$$Z = \frac{\beta_1 - \beta_2}{\sqrt{(SE\ \beta_1)^2 + (SE\ \beta_2)^2}} \text{ (Equation 5)}$$

[13] Following Solal and Snellman (2019), we avoid using cumulative abnormal returns (CAR) techniques as firms are known to report aggregated news simultaneously, which makes it difficult to assess the value-effect of a single news item such as board appointments. Moreover, managers are known to adopt news "burying" techniques (Kothari, Shu, and Wysock, 2009), especially when they have to report "bad news." It makes it especially challenging to assess the value-effect of other relatively unknown news items, such as PC directors' appointments. Moreover, the long-run valuation model we adopt for this analysis is unlikely to be affected by short-term market movements.

In Table 6, we report the firms' market performance associated with respective PC directors. The reported results are the second-stage estimates from the 2SLS model. We do not report the instrument's first-stage estimate, i.e., the country-level industry-year average Board PC proportions. Nevertheless, we note that they are significant at conventional levels of statistical confidence (mostly $p<0.01$) and, therefore, valid for our use. In column (1), the primary explanatory variable is *MINISTERS*. In column (2) and (3), it is the *BUREAUCRATS* and *ADVISERS*, respectively. In column (4), we estimate the full model with all three PC directors' types. In columns (5) and (6), we present the matched sample results where *Bureaucrats* are the primary explanatory variable and the full model, respectively. We match the focal firms – which appointed a PC director during any year within our sample – and the control firms that never appointed any such director – using observable firm, board, and country characteristics. We use *TOBIN'S Q*, *PROFITABILITY*, *FIRM_SIZE*, *FOREIGN_ASSETS*, *LEVERAGE*, *CASH_HOLDINGS*, *OWNERSHIP*, *BOARD_INDEPENDENCE, DUAL_BOARD, and GDP_PER_CAPITA* to match the focal and control firms. Besides, we include a full set of group effects such as Year Fixed-Effect and Industry Fixed-Effects during the matching process. We adopt a conservative matching technique, such as matching the focal firms and the control firms without replacement and using a caliper of 1 percent (Guo and Fraser, 2015)[14]. We find that only *BUREAUCRATS* are associated with statistically significant market performance across all columns ($p<0.05$). In other words, *BUREAUCRATS* are associated with an increase in firm-value, *ceteris paribus*.

In Panel B, we report the market performance results across the *FRASER ECONOMIC FREEDOM* tertiles using the matched samples only. In columns (1)-(3), when the primary explanatory variable is *Ministers*, none of the coefficients are statistically significant. Across the columns (4)-(6), we find that in the last two columns, the coefficients load statistically

[14] According to the Logit choice model, several matching variables were statistically significant, with a considerably large pseudo-R-square. It suggests that focal firms are not randomly selected. Most p-values of the mean-difference tests between focal and control firms were statistically significant in the unmatched sample ($p<0.01$). Whereas, in the matched samples, the p-values of the mean-difference tests are no longer significant. It suggests a good match between the samples.

significantly on *Bureaucrats* at conventional confidence levels ($p<0.01$ and $p<0.10$, respectively). The magnitude of the coeffects decreases as the Fraser Economics Freedom tertiles increases. These results are qualitatively similar to *Heritage Economic Freedom* tertiles.

In Panel C and D, we formally test if *(MINISTERS) BUREAUCRATS* are associated with (worse) better market performance as the institutional quality increases using matched samples. In Panel C, we use the *FRASER_ECONOMIC_FREEDOM* tertiles, whereas, in Panel D, we use the *HERITAGE_ECONOMIC_FREEDOM* tertiles. For (*MINISTERS*) *BUREAUCRATS*, we find that the Low-Mid coefficient mean-difference in both panels are (negative) positive (but) and statistically (insignificant) significant. While the Low-High coefficients are in the right direction for the *BUREAUCRATS*, the statistical tests are not significant in the matched sample. In Figure 2, we plot the unmatched sample regression coefficients of Equation 4 while using *FRASER_ECONOMIC_FREEDOM* tertiles. The plot suggests that bureaucrats' effectiveness in improving the firms' market performance takes an inverted V-shape. For *BUREAUCRATS*, these results are qualitatively similar if we use other firm performance measures such as *TOBIN'S_Q* and *PROFITABILITY*, using both matched and unmatched samples. Whereas, we find statistically significant results for *MINISTERS* in the expected directions only with the accounting *PROFITABILITY* measure (High-Low coefficient: -0.826; z-value: -2.68). In other words, *MINISTER*-connected firms in stronger institutional quality countries have weaker accounting performance than firms in weaker institution countries. When taken together, these results offer weak support to hypothesis 2a and partial support to our hypothesis 2b.

|Insert Table 6 here| and |Insert Figure 2 here|

### E. Ministers versus Bureaucrats

Before we formally test our hypothesis 3, it is instructive to understand what types of firms appoint bureaucrats and if they show adequate "respect" to them. We will interpret respect shown to the bureaucrats if boards treat them similarly to the political executives through appointments and pay.

In our first test of this sub-section, *Firm Characteristics* represent the firm and board properties such as *FIRM_SIZE*, *FOREIGN_ASSETS*, *LEVERAGE*, *R&D*, *OWNERSHIP*,

*BUSINESS_SEGMENTS*, *GEOGRAPHIC_SEGMENTS*, *BOARD_SIZE*, and *BOARD_INDEPENDENCE*. For this analysis, we restrict the sample to only those firms that appointed ministers or bureaucrats during their sample period. In order words, we exclude all firms and firm-year observations that have never appointed either a *BUREAUCRAT* or a *MINISTER* on their boards. We also exclude firms that appointed both *MINISTERS* and *BUREAUCRATS* on their board at any point in time. Here, the *BUREAUCRAT_FIRMS* is a time-invariant dummy. It takes the value one if the firm has ever appointed a bureaucrat director across the years of its presence in our sample, zero otherwise. With the sample restriction discussed here, *BUREAUCRAT_FIRMS* also inversely represent firms with *MINISTERS* when the coding is zero. Therefore, a significant coefficient loading on the $\alpha$ will represent a conditional mean difference test. It would document how the *BUREAUCRAT_FIRMS* are different from those with *MINISTERS*. Since we are not interested in the time-variate differences among the firms, but only in the fundamental differences between them, we include only the Industry Fixed-Effects. However, all our results are qualitatively similar should we include Year Fixed-Effects. We retain the full set of controls, excluding the primary dependent variable.

$$Firm\ Characteristics = \alpha\ Bureaucrat\ Firms + \beta \sum X + Industry\ FE + \varepsilon \quad \text{(Equation 2)}$$

Our second set of tests in this sub-section mimics the same logic we discussed earlier, but we apply it to the director-level data. For this analysis, we restrict the director-firm-year sample to only those observations wherein the director is either a minister or a bureaucrat. Therefore, we remove all the director-firm-year observations that have nothing to do with ministers or bureaucrats. Here, the leading explanatory variable, *BUREAUCRAT*, takes the value one if the director is a bureaucrat. Reflexively, the zeros in this identification represent ministers. Therefore, a significant coefficient loading on $\alpha$ would measure the conditional differences between the ministers and bureaucrats sitting on the board. In Equitation 3, *y* represents a cross-section of the board and individual characteristics of the directors. Such as *BOARD_CHAIR*, *FINANCIAL_EXPERT*, *BOARD_TENURE*, *OUTSIDE_AFFILIATION*, *NUM._OF_COMMITTEES*, *COMPENSATION, NUM._OF_QUALIFICATIONS, AGE, and*

*WOMAN*. We retain the full set of controls and group effects for this analysis, excluding the primary dependent variable.

$$y = \alpha\ Bureaucrat + \beta \sum X + \sum Group\ Effects + \varepsilon \text{ (Equation 3)}$$

We report the results of these analyses in Table 7. In Panel A, we report the differences in the firm characteristics. In Panel B, we report the individual level differences among the ministers and bureaucrat directors. Because of our stringent background identification method discussed in earlier sections, we identify no individual directors as both a minister and a bureaucrat. Results from Panel A suggest that *BUREAUCRATS_FIRMS* are larger, have lower exposure to foreign assets, lower leverage, less ownership concentration, operate on a broader cross-section of business segments, and have a higher proportion of independent directors.

Results from Panel B suggest that except for the higher number of committees that bureaucrats inhibit, both types of directors have broadly similar boards experience and expertise. It includes the board chair, financial expertise, tenure, outside affiliations, and compensation. From a demographic perspective, bureaucrats are more likely to be women and younger than the ministers.

|Insert Table 7 here|

## F. The Bureaucrat Directors' Public Authority

We test our hypotheses 3-3a by estimating Equation 6, separately for *MINISTERS* and *BUREAUCRATS* as dependent variables. We test if the demand for *MINISTERS* impairs faster than *BUREAUCRATS* by performing a Paternoster et al. 's (1998) Z-test on the interaction coefficient $\theta$, as shown in Table 8. In these Tobit models, we refrain from including Fama and French's (1997) 48-industry dummies. However, we retain all other controls, as discussed earlier.

$$PC\ Board = \alpha\ Economic\ Freedom + \delta\ Heavy\ Industries\ +$$
$$\theta\ Economic\ Freedom\ x\ Heavy\ Industries + \beta \sum X + \sum Group\ Effects + \varepsilon \text{ (Equation 6)}$$

In column (1) of Table 8, we find that the *HEAVY_INDUSTRIES* dummy is positive and statistically significant at conventional levels of confidence ($p<0.01$) when the dependent variable is *MINISTERS*. Whereas, in column (3), when the dependent in *BUREAUCRATS*, the *HEAVY_INDUSTRIES* dummy is negative and statistically significant ($p<0.01$). These results

suggest that *HEAVY_INDUSTRIES* have a higher than average demand for *MINISTERS*, whereas they have a lower than average demand for *Bureaucrats*. We test our main proposition for this sub-section by estimating *FRASER_ECONOMIC_FREEDOM* and *HEAVY_INDUSTRIES'* interaction, as shown in columns (2) and (4). In both columns, we find that the demand for ministers and bureaucrats impairs statistically significantly with the increase in institutional quality ($p<0.05$ and $p<0.01$, respectively). However, Paternoster et al.' coefficient mean-difference Z-test is not statistically significant. We calculate the z-value as -0.35 only. All these results are qualitatively similar when we use *HERITAGE_ECONOMIC_FREEDOM* scores in columns (5)-(8) or using matched samples. We do not find support for the view that heavy industries' demand for *BUREAUCRATS* impairs faster than the ministers. Therefore, we find support for our null hypothesis 3, and not for hypothesis 3a.

|Insert Table 8 here|

## V. Sensitivity Analyses

As a sensitivity test, we restrict all our tests to just European Union (EU) countries. If our predictions are relevant, they should find support in data from the subsample of EU countries. In unreported results, we find support for all our hypotheses, albeit some coefficients are significant at weaker confidence levels due to the smaller sample of observations. Despite this, these results largely attest to the robustness of our analyses.

Next, since the coverage of the BoardEx database in the initial years was moderate, we estimate all our models by restricting our sample to 2003-2015. We find stronger support for our primary tests with this restriction.

During our PC directors' background identification, along with government roles and responsibilities, we collected data on the last year a director was in their focal government jobs to establish their former status. For our primary sample PC directors, we established the year when the directors left their focal government jobs from multiple sources. Even though we were able to establish their government roles and responsibilities for some PC directors, we could not verify which year they precisely left their focal jobs to take up other positions. This problem was notably

significant for the bureaucrats and political advisers because of their frequent changes in government positions and general obscurity surrounding these individuals. For our primary analysis, as discussed earlier in the study, we excluded the directors for whom we were unable to establish their last year in their focal government jobs from our sample. For an additional sensitivity test, we estimate all our models by including the directors[15] for whom we were able to identify them into bureaucrat or advisory directors' pool, but were unable to verify their last year in government. It is a necessary sensitivity test. Even though we have made earnest efforts to ensure all our PC directors meet our identification requirements, some odd individuals may have mixed backgrounds. It means there could be individuals who may not be strictly classified as ministers, bureaucrats, or political advisers, respectively. This risk is much lower in our reported results since our PC directors' identification is the strictest possible. By including directors for whom there remains ambiguity, should they jump our classification, we introduce stronger misidentification possibilities. It works against findings results that we have reported here in this study. However, even after the inclusion of all PC directors (irrespective if we found their last year in their focal government jobs), our primary results are qualitatively similar.

## VI. Concluding Discussion

PC directorship research's primary focus on politicians has left the corporate role of a broad cross-section of political agents, unexamined and unexplored. We fill this research gap by including bureaucrats and political advisers within the ambit of PC directors.

Political executives, bureaucrats, and political advisers enter the government through very different channels. According to our findings, bureaucrats have nearly five times (seven times) more government experience than political executives (political advisers). Therefore, they are likely to gain distinctively different human and social capital. We document that firms in countries with higher institutional quality appoint bureaucrats who likely excel in their role as institutional informants. It is despite the risk of diminishing returns with an increase in

[15] On average, 62 percent of firm-year observations have *Bureaucrats* when we include those directors for whom we could not establish their last year in their focal government job. By contrast, in our sample, 52 percent of the firm-year observations have *Bureaucrats.*

institutional quality. Consistent with prior literature (Faccio, 2006), we document that firms in lower institutional quality countries appoint more political executives, i.e., ministers. In congruence with our expectations, we document that firms do not have a significant demand for political advisers across the cross-section of institutional variations. Providing support to these results, we further document that the firm-value increases with bureaucrat directors as the institutional quality improves. Albeit, this trend reverses in the top tertile of institutional quality, creating an inverted V-shape.

Finally, we assess the academic relevance and legitimacy of the bureaucrat directors for further academic research. Were bureaucrats ignored in the literature since insignificant firms appoint them, or boards do not have a healthier respect for them, or they lack public authority? We document that firms with bureaucrats are comparatively larger and better monitored than the ones with political executives. Furthermore, we show that bureaucrats receive almost equal pay and the board's respect through appointments to vital board positions such as board chair. If anything, bureaucrats receive more committee work. Lastly, heavy industry firms with a greater need for PC directorships, their demand for bureaucrats' services do not impair faster than political executives, as institutions' quality increases. When taken together, these results suggest that the lack of academic attention paid to the bureaucrats is mostly an inadvertent academic oversight.

Our study has some limitations, but it also opens up avenues for future research. One of the limitations of this study is our underlying assumption of homogeneity among the cross-section of bureaucrats. Bureaucrats come from a wide range of government departments and institutions. This study refrained from examining how such cross-departmental heterogeneity enables director selection within specific institutional settings. Besides, we do not distinguish between bureaucrats who have managed large departments or have technical expertise such as foreign affairs, health policies, or trade policies. Moreover, there are demographic variations among the bureaucrats, such as gender, race, etcetera. In the interest of brevity, we refrained from exploring all these factors. Future studies could use these aspects to test new theories. Overall, the expansion of PC

directors' definition opens up new avenues of research, particularly on bureaucrat directors, which should bring them out of their unwarranted obscurity.

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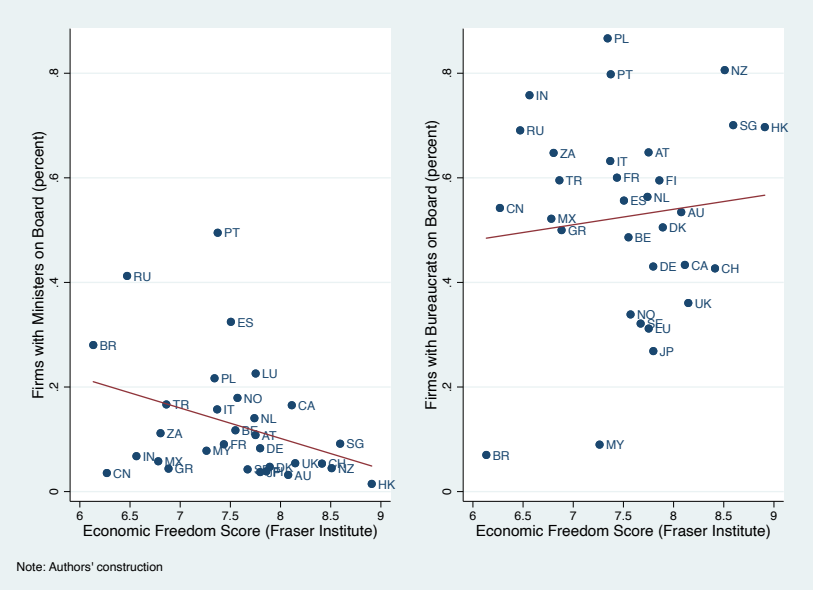
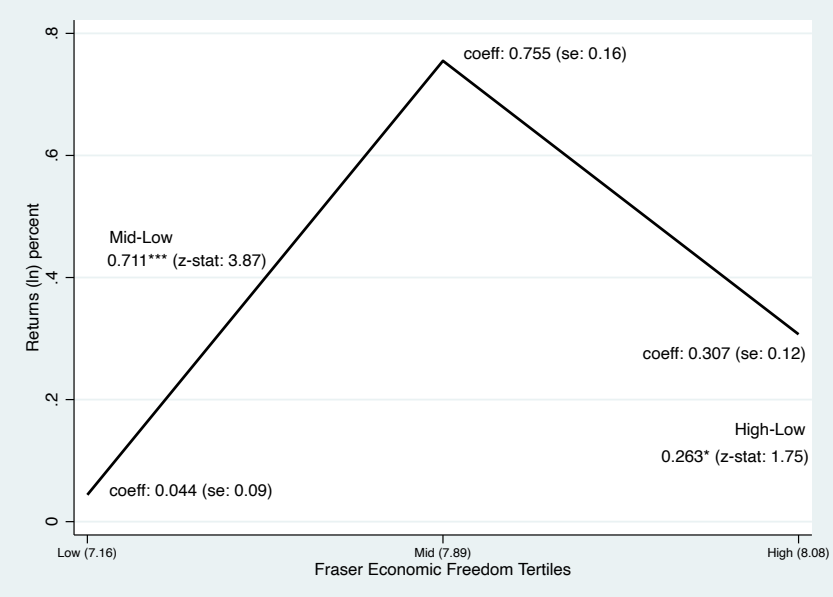
Figure 1: Ministers and Bureaucrats on firms' corporate boards




Notes: This figure plots the countries' panel cross-sectional average levels of Ministers and Bureaucrats, respectively.

Figure 2: Bureaucrat Director firms' Market Performance across Institutional Quality Tertiles




Notes: In this figure, we plot the tertile-by-tertile regression coefficients on the proportions of firm-level Bureaucrats. In the 2SLS regressions, the dependent variable is Returns (ln). We estimate the Mid-Low and High-Low using the regression coefficient (coeff.) and standard errors (se) we report in the plot area. We use the full sample tertiles for this analysis.

## Table 1: Sample Statistics

Table 1 reports summary statistics (observations, % of firms with ministers, bureaucrat, and adviser on the board). We further report the country-level variables such as economic freedom, dual board system, gender quota, GDP per capita, Guillen and Capron-score, and government orientation of all countries in the sample.

| Countries | Observations | Ministers | Bureaucrats | Advisers | Economic Freedom | Dual Board | Gender Quota | GDP per Capita | Guillen Capron SRI | Conservative Govt. |
|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 2255 | 0.03 | 0.53 | 0.04 | 8.08 | 0 | 0 | 56.71 | 6.75 | 0.42 |
| Austria | 148 | 0.11 | 0.65 | 0.01 | 7.75 | 1 | 0 | 48.70 | 6.20 | 0.03 |
| Belgium | 290 | 0.12 | 0.49 | 0.04 | 7.55 | 0 | 1 | 43.98 | 5.65 | 0.57 |
| Brazil | 157 | 0.28 | 0.07 | 0.00 | 6.13 | 0 | 0 | 11.45 | 5.50 | 0.00 |
| Canada | 2274 | 0.17 | 0.43 | 0.03 | 8.11 | 0 | 0 | 47.53 | 6.75 | 0.93 |
| Denmark | 190 | 0.05 | 0.51 | 0.06 | 7.89 | 1 | 0 | 56.83 | 3.00 | 0.63 |
| Finland | 284 | 0.04 | 0.60 | 0.01 | 7.86 | 0 | 0 | 47.45 | 6.38 | 1.00 |
| France | 1171 | 0.09 | 0.60 | 0.11 | 7.44 | 1 | 1 | 40.69 | 7.18 | 0.62 |
| Germany | 1241 | 0.08 | 0.43 | 0.02 | 7.80 | 1 | 1 | 41.94 | 6.31 | 0.86 |
| Greece | 114 | 0.04 | 0.50 | 0.17 | 6.88 | 1 | 0 | 23.15 | 4.99 | 0.59 |
| Hong Kong | 881 | 0.01 | 0.70 | 0.05 | 8.91 | 0 | 0 | 38.83 | 6.89 | 0.00 |
| India | 1001 | 0.07 | 0.76 | 0.03 | 6.56 | 0 | 1 | 1.43 | 6.73 | 0.17 |
| Italy | 299 | 0.16 | 0.63 | 0.13 | 7.37 | 1 | 1 | 35.32 | 6.81 | 0.38 |
| Japan | 265 | 0.04 | 0.27 | 0.01 | 7.80 | 0 | 0 | 38.32 | 7.00 | 0.09 |
| Luxembourg | 93 | 0.23 | 0.31 | 0.01 | 7.75 | 1 | 0 | 105.23 | 6.24 | 1.00 |
| Malaysia | 256 | 0.08 | 0.09 | 0.00 | 7.26 | 0 | 1 | 9.98 | 6.25 | 0.00 |
| Mexico | 69 | 0.06 | 0.52 | 0.06 | 6.78 | 0 | 0 | 9.91 | 5.50 | 1.00 |
| Netherlands | 527 | 0.14 | 0.56 | 0.06 | 7.74 | 1 | 1 | 48.46 | 4.96 | 0.94 |
| New Zealand | 67 | 0.04 | 0.81 | 0.01 | 8.51 | 0 | 0 | 39.26 | 6.75 | 0.97 |
| Norway | 307 | 0.18 | 0.34 | 0.05 | 7.57 | 0 | 1 | 86.51 | 5.60 | 0.31 |
| Poland | 76 | 0.22 | 0.87 | 0.22 | 7.34 | 1 | 0 | 13.24 | 7.40 | 1.00 |
| Portugal | 98 | 0.49 | 0.80 | 0.05 | 7.37 | 1 | 0 | 21.91 | 6.45 | 0.49 |
| Singapore | 568 | 0.09 | 0.70 | 0.03 | 8.59 | 0 | 0 | 53.58 | 7.25 | 0.00 |
| South Africa | 402 | 0.11 | 0.65 | 0.02 | 6.80 | 0 | 1 | 6.61 | 5.67 | 0.00 |
| Spain | 345 | 0.32 | 0.56 | 0.01 | 7.51 | 0 | 1 | 30.12 | 4.75 | 0.46 |
| Sweden | 635 | 0.04 | 0.32 | 0.01 | 7.67 | 0 | 0 | 51.36 | 5.98 | 0.65 |
| Switzerland | 635 | 0.05 | 0.43 | 0.04 | 8.41 | 1 | 0 | 72.63 | 4.54 | 0.00 |
| Turkey | 42 | 0.17 | 0.60 | 0.10 | 6.86 | 0 | 0 | 11.50 | 5.94 | 0.00 |
| United Kingdom | 8125 | 0.05 | 0.36 | 0.02 | 8.15 | 0 | 0 | 41.64 | 6.70 | 0.37 |
| Mean | 763 | 0.12 | 0.52 | 0.05 | 7.52 | 0.39 | 0.32 | 37.19 | 6.15 | 0.46 |
| Median | 299 | 0.09 | 0.53 | 0.03 | 7.67 | NA | NA | 40.69 | 6.25 | 0.46 |

## Table 2: Unique Politically-Connected Directors

Table 2, Panel A reports the number of PC-directors per country. We further identify the directors based on their mode of entry into the government, i.e., ministers, bureaucrats, and advisers. We also report the proportions of each type of PC-directors per country. Panel B reports the government tenure of a sub-sample of ministers, bureaucrats, and advisers.

Panel A

| Countries | PC Directors | Ministers | Bureaucrats | Advisers | Ministers (%) | Bureaucrats (%) | Advisers (%) |
|---|---|---|---|---|---|---|---|
| Australia | 490 | 26 | 453 | 11 | 0.05 | 0.92 | 0.02 |
| Austria | 52 | 8 | 43 | 1 | 0.15 | 0.83 | 0.02 |
| Belgium | 139 | 10 | 122 | 7 | 0.07 | 0.88 | 0.05 |
| Brazil | 15 | 15 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Canada | 361 | 74 | 279 | 8 | 0.20 | 0.77 | 0.02 |
| Chile | 1 | 1 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| China | 455 | 15 | 421 | 19 | 0.03 | 0.93 | 0.04 |
| Cyprus | 1 | 1 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Czech Republic | 1 | 1 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Denmark | 27 | 2 | 24 | 1 | 0.07 | 0.89 | 0.04 |
| Finland | 42 | 4 | 37 | 1 | 0.10 | 0.88 | 0.02 |
| France | 391 | 20 | 357 | 14 | 0.05 | 0.91 | 0.04 |
| Germany | 203 | 35 | 164 | 4 | 0.17 | 0.81 | 0.02 |
| Greece | 36 | 4 | 25 | 7 | 0.11 | 0.69 | 0.19 |
| Hong Kong | 191 | 0 | 184 | 7 | 0.00 | 0.96 | 0.04 |
| India | 406 | 11 | 384 | 11 | 0.03 | 0.95 | 0.03 |
| Indonesia | 2 | 2 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Ireland | 10 | 2 | 8 | 0 | 0.20 | 0.80 | 0.00 |
| Israel | 11 | 0 | 9 | 2 | 0.00 | 0.82 | 0.18 |
| Italy | 99 | 11 | 82 | 6 | 0.11 | 0.83 | 0.06 |
| Ivory Coast | 1 | 1 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Japan | 66 | 6 | 58 | 2 | 0.09 | 0.88 | 0.03 |
| Luxembourg | 19 | 3 | 16 | 0 | 0.16 | 0.84 | 0.00 |
| Malaysia | 11 | 11 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Mexico | 32 | 2 | 29 | 1 | 0.06 | 0.91 | 0.03 |
| Netherlands | 82 | 14 | 62 | 6 | 0.17 | 0.76 | 0.07 |
| New Zealand | 61 | 3 | 57 | 1 | 0.05 | 0.93 | 0.02 |
| Nigeria | 3 | 3 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Norway | 55 | 15 | 37 | 3 | 0.27 | 0.67 | 0.05 |
| Philippines | 1 | 1 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Poland | 38 | 5 | 27 | 6 | 0.13 | 0.71 | 0.16 |
| Portugal | 39 | 16 | 21 | 2 | 0.41 | 0.54 | 0.05 |
| Russia | 116 | 28 | 79 | 9 | 0.24 | 0.68 | 0.08 |
| Singapore | 253 | 13 | 235 | 5 | 0.05 | 0.93 | 0.02 |
| South Africa | 132 | 13 | 114 | 5 | 0.10 | 0.86 | 0.04 |
| South Korea | 2 | 0 | 2 | 0 | 0.00 | 1.00 | 0.00 |
| Spain | 90 | 29 | 60 | 1 | 0.32 | 0.67 | 0.01 |
| Sweden | 52 | 9 | 41 | 2 | 0.17 | 0.79 | 0.04 |
| Switzerland | 46 | 4 | 40 | 2 | 0.09 | 0.87 | 0.04 |
| Tanzania | 1 | 1 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| Turkey | 30 | 5 | 23 | 2 | 0.17 | 0.77 | 0.07 |
| Ukraine | 1 | 1 | 0 | 0 | 1.00 | 0.00 | 0.00 |
| United Arab Emirates | 9 | 0 | 9 | 0 | 0.00 | 1.00 | 0.00 |
| United Kingdom | 769 | 68 | 673 | 28 | 0.09 | 0.88 | 0.04 |
| Mean | 110.05 | 11.20 | 94.89 | 3.95 | 0.34 | 0.63 | 0.03 |
| Median | 40.50 | 5.00 | 33.00 | 2.00 | 0.16 | 0.80 | 0.02 |
| Total | 4842 | 493 | 4175 | 174 | NA | NA | NA |

Panel B (N=93)

| | PC Directors | Ministers | Bureaucrats | Advisers | Mean Difference T-Test Bureaucrat - Minister | Mean Difference T-Test Advisers - Minister |
|---|---|---|---|---|---|---|
| Government Tenure (Years) | 10.11 | 4.56 | 22.66 | 3.10 | 18.30 | -1.47 |
| p-values | | | | | 0.00 | 0.03 |

## Table 3: Summary Statistics

Table 3 reports summary statistics (observations, mean, standard deviation, minimum, and maximum) for all used variables. Panel A reports the firm-level sample descriptive statistics. Panel B reports the Fraser Economic Freedom scores' breakdown into its five core components. Panel C reports the sample descriptive statistics of the directors' corporate role, expertise, experience, and demographic information. We describe all variables in Appendix A.

| Variables | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Panel A | | | | | |
| MINISTERS | 22,815 | 0.009 | 0.032 | 0.000 | 0.167 |
| BUREAUCRATS | 22,815 | 0.089 | 0.121 | 0.000 | 0.538 |
| ADVISERS | 22,815 | 0.003 | 0.018 | 0.000 | 0.125 |
| FRASER_ECONOMIC_FREEDOM | 22,815 | 7.922 | 0.519 | 5.840 | 9.120 |
| HERITAGE_ECONOMIC_FREEDOM | 22,815 | 0.751 | 0.080 | 0.522 | 0.901 |
| EXTRACTIVE INDUSTRY | 22,815 | 0.417 | 0.493 | 0.000 | 1.000 |
| RETURN (LN) | 22,815 | -0.018 | 0.561 | -1.859 | 1.540 |
| TOBIN'S_Q | 22,815 | 1.739 | 1.356 | 0.491 | 9.555 |
| PROFITABILITY | 22,815 | 0.035 | 0.159 | -0.863 | 0.352 |
| FIRM_SIZE ($U.S. B) | 22,815 | 4.977 | 17.194 | 0.002 | 192.668 |
| FOREIGN_ASSETS | 22,815 | 0.271 | 0.301 | 0.000 | 1.000 |
| LEVERAGE | 22,815 | 0.475 | 0.217 | 0.008 | 1.000 |
| CASH_HOLDINGS | 22,815 | 0.158 | 0.172 | 0.000 | 0.936 |
| R&D | 22,815 | 0.021 | 0.066 | 0.000 | 0.753 |
| CAPEX | 22,815 | 0.055 | 0.062 | 0.000 | 0.349 |
| OWNERSHIP | 22,815 | 0.360 | 0.261 | 0.001 | 0.934 |
| BUSINESS_SEGMENTS | 22,815 | 3.116 | 2.073 | 1.000 | 10.000 |
| GEOGRAPHICAL_SEGMENTS | 22,815 | 2.927 | 2.041 | 1.000 | 10.000 |
| BOARD_SIZE | 22,815 | 8.348 | 3.453 | 3.000 | 21.000 |
| BOARD_INDEPENDENCE | 22,815 | 0.517 | 0.246 | 0.000 | 1.000 |
| DUAL_BOARD | 22,815 | 0.201 | 0.401 | 0.000 | 1.000 |
| GENDER_QUOTA | 22,815 | 0.119 | 0.324 | 0.000 | 1.000 |
| GDP_PER_CAPITA ($U.S. THOUSANDS) | 22,815 | 42.644 | 16.411 | 0.792 | 119.225 |
| GUILLEN_CAPRON_SRI | 22,815 | 6.479 | 0.735 | 1.750 | 7.567 |
| DUMMY: CONSERVATIVE_GOVT. | 22,815 | 0.453 | 0.498 | 0.000 | 1.000 |
| PANEL_B | | | | | |
| FRASER_SIZE_OF_GOVERNMENT | 22,815 | 6.439 | 0.947 | 3.770 | 9.030 |
| FRASER_LEGAL_SYSTEM_AND_PROPERTY_RIGHTS | 22,815 | 7.724 | 0.895 | 4.220 | 9.140 |
| FRASER_SOUND_MONEY | 22,815 | 9.360 | 0.637 | 6.420 | 9.890 |
| FRASER_FREEDOM_TO_TRADE_INTERNATIONALLY | 22,815 | 8.169 | 0.751 | 5.560 | 9.720 |
| FRASER_REGULATION | 22,815 | 7.949 | 0.754 | 4.300 | 9.420 |
| PANEL_C | | | | | |
| DUMMY: CEO | 188,051 | 0.089 | 0.284 | 0.000 | 1.000 |
| DUMMY: DUALITY | 188,051 | 0.018 | 0.132 | 0.000 | 1.000 |
| DUMMY: BOARD_CHAIR | 188,051 | 0.126 | 0.332 | 0.000 | 1.000 |
| DUMMY: FINANCIAL_EXPERT | 188,051 | 0.027 | 0.163 | 0.000 | 1.000 |
| BOARD_TENURE | 188,051 | 6.257 | 5.814 | 0.000 | 29.200 |
| DUMMY: CERTIFIED_DIRECTOR | 188,051 | 0.123 | 0.328 | 0.000 | 1.000 |
| OUTSIDE_AFFILIATIONS | 188,051 | 1.918 | 1.420 | 1.000 | 8.000 |
| NUM._OF_COMMITTEES | 188,051 | 0.968 | 1.083 | 0.000 | 3.000 |
| COMPENSATION | 188,051 | 1.674 | 2.535 | 0.000 | 8.899 |
| NUM._OF_QUALIFICATIONS | 188,051 | 1.918 | 1.420 | 1.000 | 8.000 |
| AGE | 188,051 | 56.866 | 9.507 | 34.000 | 79.000 |
| DUMMY:_WOMAN | 188,051 | 0.100 | 0.300 | 0.000 | 1.000 |

## Table 4: Institutional Quality and Institutional Informants

Table 4, Panel A reports the firm-level results with MINISTERS, BUREAUCRATS, or ADVISERS as a dependent variable, measured by the number of each type of PC-directors divided by board size. FRASER_ECONOMIC_FREEDOM_(LN) is the Economic Freedom score from the Fraser Institute, and HERITAGE_ECONOMIC_FREEDOM is the Economic Freedom score from Heritage Foundation. Panel B reports the same analysis but using director-level data. We describe all variables in Appendix A. We lag all explanatory variables by one year. We report the robust standard errors in parentheses underneath the coefficients. We cluster the standard errors at the firm level. Statistical significance is given as follows: * p<0.1, ** p<0.05, *** p<0.01

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Dependent | MIN. | BUR. | ADV. | MIN. | BUR. | ADV. |
| | | Panel A | | | | |
| **FRASER_ECONOMIC_FREEDOM (LN) (H1)** | **-0.462*** ** | **0.589*** ** | 0.052 | | | |
| | **(0.07)** | **(0.04)** | (0.09) | | | |
| **HERITAGE_ECONOMIC_FREEDOM (H1)** | | | | **-0.299*** ** | **0.608*** ** | -0.004 |
| | | | | **(0.06)** | **(0.04)** | (0.08) |
| TOBIN'S_Q | 0.003 | 0.003** | 0.009*** | 0.003 | 0.003** | 0.009*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| PROFITABILITY | -0.145*** | -0.045*** | -0.037 | -0.143*** | -0.044*** | -0.037 |
| | (0.02) | (0.01) | (0.03) | (0.02) | (0.01) | (0.03) |
| FIRM_SIZE (LN) | 0.018*** | 0.035*** | 0.018*** | 0.018*** | 0.035*** | 0.018*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| FOREIGN_ASSETS | -0.032*** | -0.029*** | -0.042*** | -0.033*** | -0.028*** | -0.042*** |
| | (0.01) | (0.01) | (0.02) | (0.01) | (0.01) | (0.02) |
| LEVERAGE | 0.067*** | -0.001 | 0.050** | 0.066*** | 0.005 | 0.050** |
| | (0.02) | (0.01) | (0.02) | (0.02) | (0.01) | (0.02) |
| CASH_HOLDINGS | 0.005 | 0.004 | 0.040 | 0.004 | 0.005 | 0.041 |
| | (0.02) | (0.01) | (0.03) | (0.02) | (0.01) | (0.03) |
| R&D | -0.019 | 0.093*** | -0.155* | -0.019 | 0.102*** | -0.156* |
| | (0.05) | (0.03) | (0.08) | (0.05) | (0.03) | (0.09) |
| CAPX | -0.020 | -0.064** | -0.262*** | -0.017 | -0.075*** | -0.261*** |
| | (0.05) | (0.03) | (0.08) | (0.05) | (0.03) | (0.08) |
| OWNERSHIP | 0.019* | 0.036*** | 0.031** | 0.018* | 0.034*** | 0.032** |
| | (0.01) | (0.01) | (0.02) | (0.01) | (0.01) | (0.02) |
| BUSINESS_SEGMENTS (LN) | 0.003 | 0.019*** | -0.000 | 0.004 | 0.020*** | -0.000 |
| | (0.00) | (0.00) | (0.01) | (0.00) | (0.00) | (0.01) |
| GEOGRAPHIC_SEGMENTS (LN) | 0.014*** | 0.002 | 0.009 | 0.013*** | 0.003 | 0.009 |
| | (0.01) | (0.00) | (0.01) | (0.01) | (0.00) | (0.01) |
| BOARD_SIZE (LN) | 0.115*** | 0.050*** | 0.083*** | 0.114*** | 0.050*** | 0.084*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| BOARD_INDEPENDENCE | 0.070*** | 0.187*** | 0.113*** | 0.071*** | 0.174*** | 0.114*** |
| | (0.01) | (0.01) | (0.02) | (0.01) | (0.01) | (0.02) |
| DUMMY: DUAL_BOARD | -0.060*** | 0.023*** | 0.073*** | -0.065*** | 0.042*** | 0.070*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| DUMMY: GENDER_QUOTA | 0.036*** | 0.008 | 0.036*** | 0.038*** | 0.020*** | 0.033** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| GDP_PER_CAPITA | 0.033*** | -0.055*** | 0.005 | 0.025*** | -0.063*** | 0.008 |
| | (0.01) | (0.00) | (0.01) | (0.01) | (0.00) | (0.01) |
| GUILLEN_CAPRON_SRI (LN) | -0.044*** | 0.088*** | 0.072*** | -0.069*** | 0.118*** | 0.073*** |
| | (0.02) | (0.01) | (0.02) | (0.02) | (0.01) | (0.02) |
| DUMMY: CONSERVATIVE_GOVT. | 0.015** | -0.009** | -0.005 | 0.014** | 0.002 | -0.007 |
| | (0.01) | (0.00) | (0.01) | (0.01) | (0.00) | (0.01) |
| constant | 0.012 | -1.324*** | -1.055*** | -0.620*** | -0.502*** | -0.982*** |
| | (0.11) | (0.07) | (0.16) | (0.07) | (0.04) | (0.10) |
| Year Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Obs. | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 |
| Firms | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Estimator | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit |

| | Panel B | | | | | |
|---|---|---|---|---|---|---|
| **FRASER_ECONOMIC_FREEDOM (LN) (H1)** | **-5.598*** ** | **3.063*** ** | -0.560 | | | |
| | **(1.15)** | **(0.47)** | (1.75) | | | |
| **HERITAGE_ECONOMIC_FREEDOM (H1)** | | | | **-3.459*** ** | **3.318*** ** | -0.766 |
| | | | | **(1.03)** | **(0.41)** | (1.63) |
| DUMMY: CEO | 0.524 | 0.045 | 0.304 | 0.516 | 0.044 | 0.304 |
| | (0.44) | (0.15) | (0.61) | (0.44) | (0.15) | (0.61) |
| DUMMY: DUALITY | 0.441 | 0.135 | 0.499 | 0.432 | 0.144 | 0.498 |
| | (0.30) | (0.10) | (0.35) | (0.30) | (0.10) | (0.35) |
| DUMMY: INDEPENDENT | 1.168*** | 0.909*** | 1.030*** | 1.166*** | 0.901*** | 1.031*** |
| | (0.18) | (0.06) | (0.23) | (0.18) | (0.06) | (0.23) |
| DUMMY: BOARD_CHAIR | 0.330** | 0.501*** | 0.592** | 0.335** | 0.498*** | 0.593** |
| | (0.15) | (0.05) | (0.24) | (0.15) | (0.05) | (0.24) |
| DUMMY: FINANCIAL_EXPERT | -1.299* | -0.585*** | -0.477 | -1.316* | -0.597*** | -0.473 |
| | (0.74) | (0.18) | (0.56) | (0.74) | (0.18) | (0.56) |
| BOARD_TENURE (LN) | -0.058 | -0.045** | -0.137* | -0.059 | -0.048*** | -0.137* |
| | (0.05) | (0.02) | (0.07) | (0.05) | (0.02) | (0.07) |
| DUMMY: CERTIFIED_DIRECTOR | 0.531** | 0.352*** | 0.501* | 0.536** | 0.355*** | 0.500* |
| | (0.22) | (0.07) | (0.30) | (0.22) | (0.07) | (0.30) |
| OUTSIDE_AFFILIATIONS (LN) | 0.160** | 0.340*** | 0.049 | 0.159** | 0.337*** | 0.050 |
| | (0.08) | (0.03) | (0.14) | (0.08) | (0.03) | (0.14) |
| AGE_SQUARE (LN) | 0.326*** | 0.071*** | 0.132** | 0.325*** | 0.074*** | 0.131** |
| | (0.12) | (0.01) | (0.06) | (0.12) | (0.01) | (0.06) |
| DUMMY: WOMAN | 0.065 | 0.477*** | 0.219 | 0.070 | 0.488*** | 0.216 |
| | (0.15) | (0.05) | (0.23) | (0.15) | (0.05) | (0.23) |
| constant | -2.692 | -10.928*** | -10.842*** | -10.173*** | -6.771*** | -11.568*** |
| | (2.06) | (0.79) | (3.19) | (1.36) | (0.52) | (2.19) |
| Other Firm, Board and Country Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Obs. | 188,051 | 188,051 | 188051 | 188,051 | 188,051 | 188051 |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Estimator | Logit | Logit | Logit | Logit | Logit | Logit |

## Table 5: Disaggregated Institutional Quality and Institutional Informants

Table 5 reports the results of the disaggregated scores of Institutional Quality, with MINISTERS or BUREAUCRATS as a dependent variable, measured by the number of each type of PC-directors divided by board size. We measure the sub-scores of Economic Freedom by Fraser Institute as measures of Institutional Quality: FRASER_SIZE_OF_GOVERNMENT, FRASER_LEGAL_SYSTEM_AND_PROPERTY_RIGHTS, FRASER_SOUND_MONEY, FRASER_FREEDOM_TO_TRADE_INTERNATIONALLY, and FRASER_REGULATION. We describe all variables in Appendix A. We lag all explanatory variables by one year. We report the robust standard errors in parentheses underneath the coefficients. We cluster the standard errors at the firm level. Statistical significance is given as follows: * p<0.1, ** p<0.05, *** p<0.01

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| Dependent | MINISTERS | | | | | BUREAUCRATS | | | | |
| **FRASER_SIZE_OF_GOVERNMENT** | -0.030 | | | | | **0.136*** ** | | | | |
| | (0.02) | | | | | **(0.01)** | | | | |
| **FRASER_LEGAL_SYSTEM_AND_PROPERTY_RIGHTS** | | **-0.257*** ** | | | | | **0.214*** ** | | | |
| | | **(0.03)** | | | | | **(0.02)** | | | |
| **FRASER_SOUND_MONEY** | | | 0.068 | | | | | **-0.090*** | | |
| | | | (0.07) | | | | | **(0.05)** | | |
| **FRASER_FREEDOM_TO_TRADE_INTERNATIONALLY** | | | | **-0.089** ** | | | | | **0.092*** ** | |
| | | | | **(0.04)** | | | | | **(0.03)** | |
| **FRASER_REGULATION** | | | | | **-0.202*** ** | | | | | **0.255*** ** |
| | | | | | **(0.03)** | | | | | **(0.02)** |
| constant | -0.566*** | -0.421*** | -0.712*** | -0.501*** | -0.361*** | -0.776*** | -0.704*** | -0.396*** | -0.631*** | -0.850*** |
| | (0.08) | (0.07) | (0.12) | (0.09) | (0.08) | (0.05) | (0.04) | (0.07) | (0.05) | (0.05) |
| Year Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Obs. | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 |
| Firms | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Estimator | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit |

## Table 6: Market Performance

Table 6, Panel A reports the firms' market performance associated with respective PC directors. With RETURN (LN) as the dependent variable, which is measured by Log Market Cap. in $US (t) - Log Market Cap. in $US (t-1). Panel B reports the market performance results across the Fraser Economic Freedom tertiles using the matched samples only. Panel C (with Fraser Institute Economic Freedom) ad D (with Heritage Foundation Economic Freedom) report if (MINISTERS) BUREAUCRATS are associated with (worse) better market performance as the institutional quality increases using matched samples. We describe all variables in Appendix A. We lag all explanatory variables by one year. We report the robust standard errors in parentheses underneath the coefficients. We cluster robust standard errors at the firm level. Statistical significance is given as follows: * p<0.1, ** p<0.05, *** p<0.01

Panel A: Market Performance

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Dependent | RETURN (LN) | RETURN (LN) | RETURN (LN) | RETURN (LN) | RETURN (LN) | RETURN (LN) |
| | | | | | Matched Sample | |
| FRASER_ECONOMIC_FREEDOM (LN) | 0.760*** | 0.707*** | 0.761*** | 0.703*** | 0.641*** | 0.642*** |
| | (0.09) | (0.09) | (0.09) | (0.09) | (0.13) | (0.13) |
| MINISTERS | -0.035 | | | -0.030 | | 0.027 |
| | (0.18) | | | (0.18) | | (0.34) |
| **BUREAUCRATS_** | | **0.173*** ** | | **0.183*** ** | **0.217** ** | **0.218** ** |
| | | **(0.06)** | | **(0.06)** | **(0.10)** | **(0.10)** |
| ADVISERS | | | -0.164 | -0.403 | | -0.020 |
| | | | (0.37) | (0.37) | | (0.56) |
| TOBIN'S_Q | -0.029*** | -0.029*** | -0.029*** | -0.029*** | -0.030*** | -0.031*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| PROFITABILITY | 0.232*** | 0.237*** | 0.232*** | 0.236*** | 0.224*** | 0.225*** |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.05) | (0.05) |
| FIRM_SIZE_(LN) | -0.015*** | -0.018*** | -0.015*** | -0.018*** | -0.024*** | -0.024*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| FOREIGN_ASSETS | 0.010 | 0.012 | 0.010 | 0.012 | 0.029 | 0.029 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| LEVERAGE | 0.134*** | 0.136*** | 0.134*** | 0.136*** | 0.147*** | 0.147*** |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.03) | (0.03) |
| CASH_HOLDINGS | 0.080*** | 0.079*** | 0.080*** | 0.079*** | 0.119*** | 0.119*** |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.04) | (0.04) |
| R&D | 0.272*** | 0.269*** | 0.271*** | 0.267*** | 0.211* | 0.211* |
| | (0.08) | (0.08) | (0.08) | (0.08) | (0.11) | (0.11) |
| CAPX | -0.317*** | -0.310*** | -0.317*** | -0.312*** | -0.354*** | -0.355*** |
| | (0.07) | (0.07) | (0.07) | (0.07) | (0.11) | (0.11) |
| OWNERSHIP | -0.002 | -0.006 | -0.002 | -0.005 | -0.023 | -0.023 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| BUSINESS_SEGMENTS (LN) | 0.008 | 0.006 | 0.008 | 0.006 | 0.009 | 0.009 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| GEOGRAPHIC_SEGMENTS (LN) | 0.003 | 0.003 | 0.003 | 0.003 | -0.005 | -0.005 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| BOARD_SIZE (LN) | -0.010 | -0.010 | -0.010 | -0.009 | -0.029 | -0.029 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| BOARD_INDEPENDENCE | 0.000 | -0.015 | 0.001 | -0.015 | -0.064** | -0.065** |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.03) | (0.03) |
| DUMMY: DUAL_BOARD | 0.043*** | 0.041*** | 0.044*** | 0.042*** | 0.040** | 0.040** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| DUMMY: GENDER_QUOTA | 0.117*** | 0.116*** | 0.117*** | 0.117*** | 0.124*** | 0.124*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| GDP_PER_CAPITA | -0.060*** | -0.056*** | -0.060*** | -0.055*** | -0.056*** | -0.056*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| GUILLEN_CAPRON_SRI (LN) | -0.028 | -0.037* | -0.027 | -0.037* | 0.005 | 0.005 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.04) | (0.04) |
| DUMMY: CONSERVATIVE_GOVT. | 0.052*** | 0.053*** | 0.052*** | 0.053*** | 0.059*** | 0.059*** |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| constant | -0.854*** | -0.754*** | -0.859*** | -0.754*** | -0.506** | -0.507** |
| | (0.15) | (0.16) | (0.15) | (0.16) | (0.24) | (0.24) |
| Year Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Obs. | 22815 | 22815 | 22815 | 22815 | 11598 | 11598 |
| Firms | 4951 | 4951 | 4951 | 4951 | 3828 | 3828 |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| Estimator | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS |
|---|---|---|---|---|---|---|
| Panel B: Matched Sample Market Performance across Institutional Quality Tertiles (Fraser Economic Freedom) | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | Low | Mid | High | Low | Mid | High |
| Dependent | RETURNS | RETURNS | RETURNS | RETURNS | RETURNS | RETURNS |
| | (LN) | (LN) | (LN) | (LN) | (LN) | (LN) |
| MINISTERS | 0.115 | -0.471 | 0.225 | | | |
| | (0.30) | (0.60) | (0.41) | | | |
| **BUREAUCRATS** | | | | 0.116 | **1.097*** ** | **0.346*** |
| | | | | (0.16) | **(0.30)** | **(0.20)** |
| constant | -0.135 | 3.106** | 2.083 | -0.322 | 4.901*** | 5.022*** |
| | (0.29) | (1.33) | (1.31) | (0.22) | (0.93) | (0.90) |
| Other Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes |
| Obs. | 1773 | 1410 | 1573 | 3452 | 4285 | 3861 |
| Firms | 670 | 704 | 701 | 1274 | 1880 | 1651 |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Estimator | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS |
| Panel C: Matched Sample Coefficient Mean Difference Test using Fraser Economic Freedom Tertiles | | | | | | |
| | | RETURNS | RETURNS | | RETURNS | RETURNS |
| | | (LN) | (LN) | | (LN) | (LN) |
| | | Mid-Low | High-Low | | Mid-Low | High-Low |
| Diff. MINISTERS | | -0.586 | 0.11 | | | |
| z-stat | | -0.87 | 0.22 | | | |
| **Diff. BUREAUCRATS** | | | | | **0.981*** ** | 0.23 |
| z-stat | | | | | **2.89** | 0.90 |
| Panel D: Matched Sample Coefficient Mean Difference Test using Heritage Economic Freedom Tertiles | | | | | | |
| | | RETURNS | RETURNS | | RETURNS | RETURNS |
| | | (LN) | (LN) | | (LN) | (LN) |
| | | Mid-Low | High-Low | | Mid-Low | High-Low |
| Diff. MINISTERS | | -0.15 | 0.105 | | | |
| z-stat | | -0.29 | 0.17 | | | |
| **Diff. BUREAUCRATS** | | | | | **1.059*** ** | 0.361 |
| z-stat | | | | | **2.75** | 1.41 |

## Table 7: Ministers versus Bureaucrats

Table 7 Panel A reports the differences in the firm characteristics between firms that appoint ministers versus bureaucrats. Here, BUREAUCRAT_FIRMS is a time-invariant dummy. It takes the value one if the firm has ever appointed a bureaucrat director across the years of its presence in our sample, zero otherwise. Panel B reports the individual level differences between the ministers and the bureaucrat directors. We describe all variables in Appendix A. We lag all explanatory variables by one year. We report the robust standard errors in parentheses underneath the coefficients. We cluster the standard errors at the firm level. Statistical significance is given as follows: * p<0.1, ** p<0.05, *** p<0.01

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| Panel A: Fundamental Characteristics of the Firms with Bureaucrat Directors as compared with Minister Directors | | | | | | | | | |
| | FIRM_ SIZE | FOREIGN_ ASSETS | LEVERAGE | R&D | OWNERSHIP | BUSINESS_ SEGMENTS (LN) | GEOG_ SEGMENTS (LN) | BOARD_SIZE (LN) | BOARD_ INDEP. |
| **BUREAUCRAT_FIRMS** | **0.305*** ** | **-0.050*** ** | **-0.033*** ** | -0.001 | **-0.051*** ** | **0.094*** ** | -0.013 | -0.014 | **0.048*** ** |
| | **(0.06)** | **(0.01)** | **(0.01)** | (0.00) | **(0.01)** | **(0.03)** | (0.03) | (0.01) | **(0.01)** |
| constant | -0.929 | 0.392*** | 0.678*** | 0.031* | 0.577*** | 1.191*** | -0.726*** | 1.351*** | 0.623*** |
| | (0.64) | (0.10) | (0.07) | (0.02) | (0.10) | (0.26) | (0.22) | (0.12) | (0.09) |
| Other Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed-Effect | No | No | No | No | No | No | No | No | No |
| Industry Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Year Obs. | 10394 | 10394 | 10394 | 10394 | 10394 | 10394 | 10394 | 10394 | 10394 |
| Firms | 2174 | 2174 | 2174 | 2174 | 2174 | 2174 | 2174 | 2174 | 2174 |
| Adj. R-square | 0.606 | 0.348 | 0.302 | 0.421 | 0.211 | 0.254 | 0.465 | 0.458 | 0.290 |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Estimator | OLS | OLS | OLS | OLS | OLS | OLS | OLS | OLS | OLS |
| Panel B: How Ministers and Bureaucrats differ on the Board | | | | | | | | | |
| Dependent | BOARD _ CHAIR | FINANCIAL_ EXPERT | BOARD_ TENURE (LN) | OUTSIDE_ AFFILIATIONS (LN) | NUM_OF_ COMMITTEES | COMPENSATION | NUM._OF_ QUALIF | AGE | WOMAN |
| **BUREAUCRATS** | 0.158 | 1.268 | -0.002 | -0.002 | **0.094*** ** | 0.172 | 0.005 | **-0.051*** ** | **0.312** ** |
| | (0.16) | (0.80) | (0.04) | (0.02) | **(0.02)** | (0.11) | (0.01) | **(0.00)** | **(0.16)** |
| constant | 3.287** | -17.953*** | -1.458*** | -2.172*** | -3.889*** | -0.090 | 0.915*** | 4.009*** | 1.766 |
| | (1.67) | (6.74) | (0.55) | (0.38) | (0.26) | (1.39) | (0.18) | (0.04) | (1.81) |
| Other Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Non-Executive Sample | No | No | No | No | No | Yes | No | No | No |
| Year Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed-Effect | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Director Firm Year Obs. | 20886 | 20886 | 20886 | 20886 | 20886 | 14520 | 20768 | 20886 | 20886 |
| Firms | 2683 | 2683 | 2683 | 2683 | 2683 | 2244 | 2683 | 2683 | 2683 |
| Adj. R-square | _ | _ | 0.098 | 0.286 | _ | 0.237 | _ | _ | _ |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Estimator | Logit | Logit | OLS | OLS | Poisson | OLS | Poisson | Poisson | Logit |

## Table 8: The Bureaucrat Directors' Public Authority

Table 8 reports the difference in impairment speed of demand for Ministers and Bureaucrats by performing a Paternoster et al. 's (1998) Z-test on the interaction coefficient. We describe all variables in Appendix A. We lag all explanatory variables by one year. We report the robust standard errors in parentheses underneath the coefficients. We cluster robust standard errors at the firm level. Statistical significance is given as follows: * p<0.1, ** p<0.05, *** p<0.01

| | Panel_A | | | | | | | | Panel B | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | Coeff. Mean Diff. | Z-Test |
| | MIN. | MIN. | BUR. | BUR. | MIN. | MIN. | BUR. | BUR. | Diff. | z-stat |
| FRASER_ECONOMIC_FREEDOM (LN) | -0.488*** | -0.434*** | 0.586*** | 0.649*** | | | | | | |
| | (0.07) | (0.07) | (0.04) | (0.04) | | | | | | |
| DUMMY: HEAVY_INDUSTRY | 0.014*** | 0.374** | -0.019*** | 0.399*** | 0.014*** | 0.108** | -0.019*** | 0.128*** | | |
| | (0.01) | (0.15) | (0.00) | (0.09) | (0.01) | (0.05) | (0.00) | (0.03) | | |
| **FRASER_ECONOMIC_FREEDOM X HEAVY_INDUSTRY** | | **-0.175**** | | **-0.203***** | | | | | -0.028 | -0.35 |
| | | **(0.07)** | | **(0.04)** | | | | | | |
| HERITAGE_ECONOMIC_FREEDOM | | | | | -0.307*** | -0.262*** | 0.608*** | 0.673*** | | |
| | | | | | (0.06) | (0.06) | (0.04) | (0.04) | | |
| **HERITAGE_ECONOMIC_FREEDOM X HEAVY_INDUSTRY** | | | | | | **-0.128**** | | **-0.198***** | -0.07 | -0.97 |
| | | | | | | **(0.06)** | | **(0.04)** | | |
| constant | -0.015 | -0.148 | -1.296*** | -1.445*** | -0.687*** | -0.733*** | -0.474*** | -0.542*** | | |
| | (0.11) | (0.12) | (0.07) | (0.08) | (0.06) | (0.06) | (0.04) | (0.04) | | |
| Other Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | |
| Year Fixed-Effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | |
| Industry Fixed-Effect | No | No | No | No | No | No | No | No | | |
| Obs. | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 | 22815 | | |
| Firms | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 | 4951 | | |
| Overall p-value | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| F-test statistic (baseline, interaction) p-value | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | |
| Estimator | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit | Tobit | | |

## Appendix A: Variable Description

| Variables | Measurement | Source |
|---|---|---|
| | Panel A | |
| MINISTERS | The proportion of minister directors on the board (per Board Size) | Hand-collected/BoardEx |
| BUREAUCRATS | The proportion of bureaucratic directors on board (per Board Size) | Hand-collected/BoardEx |
| ADVISERS | The proportion of political adviser directors on the board (per Board Size) | Hand-collected/BoardEx |
| FRASER_ECONOMIC_FREEDOM | The measure of Economic Freedom by Fraser Institute (0-10), based on the Size of Government, Legal System and Property Rights, Access to Sound Money, Freedom to Trade Internationally, and Regulation | Fraser Institute |
| HERITAGE_ECONOMIC_ FREEDOM | A measure of Economic Freedom by Heritage Foundation (0-100), based on: the rule of law, government size, regulatory efficiency, and market openness. Used as a percentage | Heritage Foundation |
| HEAVY_INDUSTRY | Dummy coded one for following Fama and French 48 industries: 13 (Drugs), 14 (Chemicals), 15 (Rubber), 17 (Building Material), 19 (Steel), 21 (Machinery), 22 (Electrical Equipment), 23 (Automobiles), 24 (Aero), 25 (Shipping), 27 (Gold), 28 (Mines), 29 (Coal), 30 (Oil), 38 (Paper), 39 (Logistics), 40 (Transportation); zero otherwise | Dierkes and Preston (1977) and Lin and Li (2014) |
| RETURN (LN) | Log Market Cap. in $US (t) - Log Market Cap. in $US (t-1) | Worldscope |
| TOBIN'S_Q | (Total assets - Common Shareholders Equity + Market Cap.)/Total Assets | Worldscope |
| PROFITABILITY | Operating Income/Total Assets | Worldscope |
| FIRM_SIZE | Total Assets | Worldscope |
| FOREIGN_ASSETS | Foreign assets/Total Assets | Worldscope |
| LEVERAGE | Total liabilities/Total Assets | Worldscope |
| CASH_HOLDINGS | Cash/Total Assets | Worldscope |
| R&D | R&D/Total Assets | Worldscope |
| CAPEX | Capital Expenditures/Total Assets | Worldscope |
| OWNERSHIP | Percentage of shares held by insiders, which includes Cross Holdings, Corporations, Holding Companies, Government, Employees, and other individuals | Worldscope |
| BUSINESS_SEGMENTS | Total number of Business Segments a firm operates within (identified using SIC codes) | Worldscope |
| GEOGRAPHICAL_SEGMENTS | Total number of geographies within which a firm has a physical presence (identified using Total Assets across geographies) | Worldscope |
| BOARD_SIZE | Total number of directors on the board | BoardEx |
| BOARD_INDEPENDENCE | Non-executive Directors/Board Size | BoardEx |
| DUAL_BOARDS | Dummy coded one if a country allows or mandates a two-tier board structure; zero otherwise. Dual Board country classifications are available from Ferreira and Kirchmaier (2013) (Table 4.4.) and Denis and McConnell (2003) (for Finland). | Denis and McConnell (2003) and Ferreira and Kirchmaier (2013) |
| GENDER_QUOTA | Dummy coded one for all years starting the year a Gender Quota Law (irrespective of its compliance date or penalty attached) was passed for non-state-owned firms; zero otherwise | Hand-collected |
| GDP_PER_CAPITA | Gross Domestic Product per Capita ($ US) | World Bank |
| GUILLEN_CAPRON_SRI | Minority Shareholders' Rights Protection Index by Guillen and Capron (2016) | Guillen and Capron (2016) |
| CONSERVATIVE_GOVT. | Dummy coded one if the government is conservative; zero otherwise. We identify a government as conservative if the ruling political party has a "Center" or "Right"-wing political ideology as suggested by the Database of Political Institutions 2015 | Database of Political Institutions 2015 |

| | | |
|---|---|---|
| | Panel B | |
| FRASER_SIZE_OF_GOVERNMENT | Sub-score of the Economic Freedom by Fraser Institute (0-10), measuring: government consumption, transfers and subsidies, government enterprises and investment, and the top marginal tax rate | Fraser Institute |
| FRASER_LEGAL_SYSTEM_AND_PROPERTY_RIGHTS | Sub-score of the Economic Freedom by Fraser Institute (0-10), measuring: judicial independence, impartial courts, protection of property rights, military interference in the rule of law and politics, the integrity of the legal system, legal enforcement of contracts, regulatory costs of the sale of real property, reliability of police, business costs of crime | Fraser Institute |
| FRASER_SOUND_MONEY | Sub-score of the Economic Freedom by Fraser Institute (0-10), measuring: money growth, the standard deviation of inflation, inflation in the most recent year, and freedom to own foreign currency bank accounts | Fraser Institute |
| FRASER_FREEDOM_TO_TRADE_INTERNATIONALLY | Sub-score of the Economic Freedom by Fraser Institute (0-10), measuring: tariffs, regulatory trade barriers, black-market exchange rates, and controls of the movement of capital and people | Fraser Institute |
| FRASER_REGULATION | Sub-score of the Economic Freedom by Fraser Institute (0-10), measuring: credit market regulations, labor market regulations, and business regulations | Fraser Institute |
| | Panel C | |
| DUMMY_CEO | Dummy coded one if the director is the CEO; zero otherwise | BoardEx |
| DUMMY_DUALITY | Dummy coded one if the director is the CEO and also the Board Chair; zero otherwise | BoardEx |
| DUMMY_INDEPENDENT | Dummy coded one if the director is a non-executive director; zero otherwise | BoardEx |
| DUMMY_BOARD CHAIR | Dummy coded one if the director is the chair of the board; zero otherwise | BoardEx |
| DUMMY_FINANCIAL EXPERT | Dummy coded one if the board insider has any of the following job role descriptions: CFO; Finance Director; Financial Manager; Accounting Specialty; Investment Director; Controller); zero otherwise (we code non-executive directors as zero) | BoardEx |
| BOARD TENURE | Number of years on the firms' board | BoardEx |
| DUMMY_ CERTIFIED DIRECTOR | Dummy coded one if the director has an outside affiliation; zero otherwise | BoardEx |
| OUTSIDE_AFFILIATIONS | Number of listed boards on which the director currently serves | BoardEx |
| NUM._OF_COMMITTEES | Total number of board committees a director sits in | BoardEx |
| COMPENSATION | Total Annual Compensation (Salary + Bonus + Retirement Benefits + Others) | BoardEx |
| NUM._OF_QUALIFICATIONS | Total number of qualifications | BoardEx |
| AGE | Age of the director | BoardEx |
| DUMMY_WOMAN | Dummy coded one if the director is a woman; zero otherwise | BoardEx |