

# Why corporate board insiders *still* matter: Evidence using aggregate earnings shocks

Shibashish Mukherjee<sup>1</sup>  | H. Jelle M. Bonestroo<sup>2</sup>

<sup>1</sup>Rotterdam School of Management, Erasmus University and Faculty of Economics and Business, University of Groningen, The Netherlands

<sup>2</sup>KPMG, Netherlands

## Correspondence

Shibashish Mukherjee, Rotterdam School of Management, Erasmus University, Burgemeester Oudlaan 50, 3062 PA Rotterdam. Email: shibashish.mukherjee@yahoo.com

## Abstract

Corporate governance research lacks clarity on why, when, and what types of firms appoint non-CEO board insiders because of the primary academic focus on board independence. While executive monitoring is relevant, it is equally salient to understand why firms appoint non-CEO insiders to the boards. This concern is especially relevant when firms face financial difficulties during periods of macro hardship. Using the corporate socialization theory, we suggest that board insiders likely generate firm-specific private information by utilizing their long-tenured firm-focused corporate experience. It would result in a unique form of non-fungible expertise that firms would find valuable during macro hardships. Employing a difference-in-difference research design, consistent with our theory, we document that when firms experience a cross-country macro hardship such as an *aggregate earnings shock*, they appoint long-tenured and firm-focused non-CEO board insiders. We further show that financially distressed firms have a higher demand for such directors.

## KEYWORDS

aggregate earnings shock, board insiders, difference-in-difference, financial distress, non-fungible expertise

## INTRODUCTION

Agentic board composition theory (Fama & Jensen, 1983; Jensen & Meckling, 1976) suggests that board insiders possess “private information.” Therefore, within the monitoring-advising diarchy—a standard feature of the board’s resource-based view as well (Pfeffer & Salancik, 1978; Haynes & Hillman, 2010)—board insiders likely play advisors since they provide firms-specific private information (Adams & Ferreira, 2007). According to this theory, private information enables effective and efficient corporate decision-making<sup>1</sup> (Harris & Raviv, 2008; Mace, 1971). Nevertheless, this theory provides an insufficient explanation of why firms appoint non-CEO board insiders.

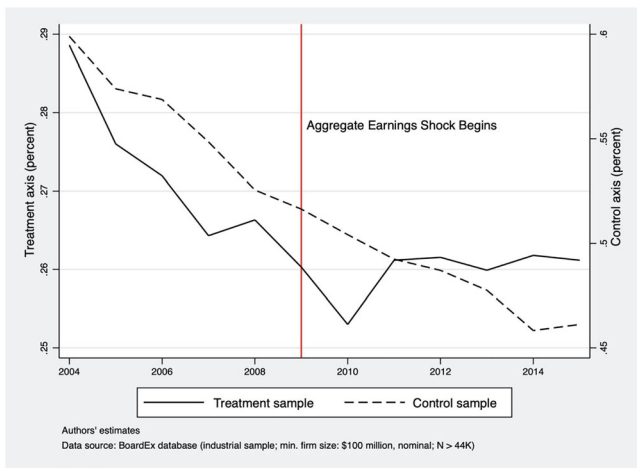
Before independent directors’ executive monitoring became the dominant corporate governance agenda (Granado-Peiró & López-Gracia, 2017), most firms used to have multiple board insiders on their corporate boards. However, as focus shifted to executive

monitoring, corporate board reforms across several countries led firms to reduce the board insiders’ appointments (Fauver et al., 2017; Zorn et al., 2017). However, as Figure 1 documents, this trend has reversed in favor of board insiders in some countries but not in others. Therefore, it is vital to ask why firms appoint non-CEO corporate board insiders to their board?

The theoretical mechanism behind board insider selection (Baysinger & Hoskisson, 1990), especially when it relates to non-CEOs, has not received sufficient academic attention barring a few exceptions (Coles et al., 2008). Still, non-CEO board insiders constitute 25% of the corporate boards globally. When we include the CEOs, this figure is as high as 36%. Therefore, our objective in this study is threefold. First, we suggest why board insiders matter to the firms by developing a corporate socialization theory, which aids private information generation. Next, building on our theorization, we empirically test when firms appoint board insiders by exploiting the probability that a country experiences a macro

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2021 The Authors. *European Management Review* published by John Wiley & Sons Ltd on behalf of European Academy of Management (EURAM).



**FIGURE 1** Board insiders across AES treatment/control samples  
 Notes: This figure presents the equal-weighted simple average of the proportions of Board Insiders across AES Treatment (experienced an aggregate earnings shock) and control samples within the 2004–2015 timeline. The figure shows that the monotonic decline in the proportion of Board Insiders reversed only in the AES Treatment sample firms by 2011 after the full impact of the earnings shock, starting the year 2008, was realized through the firms’ financial reporting

shock that proxies for periods of macro hardship. Finally, we assess if there is a particular class of firms that are more likely to appoint board insiders revealing their director selection preference during a period of macro shock.

Endogeneity concerns generally make it challenging to disassociate the reason behind a specific board configuration (Hermalin & Weisbach, 1998; Wintoki et al., 2012). Here we suggest that a macro shock would work as a cross-country source of exogenous variation, especially for firms in the industrial sector (Carey et al., 2012). It forms the basis for *when* board insiders should matter and to *whom*. Our central proposition is as follows: exogenous shock that comes from macro events such as a financial crisis (Carey et al., 2012)—similar to the global COVID19 pandemic (Spinelli & Pellino, 2020)—has the unique clarifying ability to distill it for the firms, issues, and decisions that are necessary and important from what is in vogue or fashionable under normal conditions (Kemper & Martin, 2010; Ayudhya et al., 2019). Using our identification strategy,<sup>ii</sup> which we call “aggregate earnings shock”<sup>iii</sup> (AES), we exploit the probability of some countries experiencing a stronger macro shock and include them within our treatment sample. In a difference-in-difference (DID) model (Card & Krueger, 1994), we then compare the board configuration differences in the treated sample and the control sample—which did not experience such a macro shock (i.e., AES)—both before and after the shock period. With this, we also impair generalizability shortcomings highlighted in prior literature (Desender et al., 2013) and reduce external environment-driven board selections (Filatotchev & Nakajima, 2010).

In this study, we develop four main hypotheses. Our first hypothesis suggests that firms are likely to appoint more board insiders if their private information is deemed useful in the post macro shock period. Our second hypothesis suggests that financially distressed firms would have a higher demand for board insiders in the post-macro shock period since they suffer the double-jeopardy of experiencing firm-specific financial market difficulties during a macro hardship period. We define financially distressed firms as those firm-year observations that exhibit negative financial market returns for two consecutive years. Using a 23 countries sample of 42,867 firm-year observations from 6,385 unique industrial firms, we document results consistent with these hypotheses.

Drawing on corporate socialization theory, we discuss *why* board insiders matter to the firms in our third and fourth hypotheses. Our third hypothesis suggests that board insiders with long-tenured firm experience are more likely to be appointed to the board of financially distressed firms in the post-AES period. We consider a director as long-tenured if they have longer tenure in the firm than on the board. We expect that with longer firm tenure, board insiders are more likely to develop firm-specific *non-fungible* expertise. On the other hand, generic industry experience or technical knowledge such as financial experience is *fungible* expertise (Sauerwald et al., 2016) since firms can acquire them from outside or from other sources.

Our fourth hypothesis suggests that financially distressed firms require more *firm-focused* rather than *self-focused* (Masulis & Mobbs, 2011) board insiders in the post-macro shock period. There is no evidence of clear benefits from “busy” directors (Fich & Shivdasani, 2006; Field et al., 2013). Therefore, financially distressed firms facing macro shock are likely to evaluate how firm-focused or available potential board insiders would be to their present firm when selecting them for board appointments. We adopt Masulis and Mobbs’ (2011) identification strategy and define *self-focused* non-CEO board insiders as those “certified” executives who have at least one outside appointment besides their home firm. Thus, we define *firm-focused* non-CEO board insiders as those “uncertified” executives who do not have any other external appointment. We find broad support for both these propositions using our sample. We ensure our results’ robustness using the propensity score matching (PSM) technique (Guo & Fraser, 2015), alternative measures of the dependent variables, among other tests.

While agentic board composition theory explains the asymmetry of incentives between insiders and investors, its insufficient explanation of why board insiders get appointed on a board, especially non-CEOs, leaves a large research gap. We contribute to the board configuration research by developing the corporate socialization theory, which predicts why the boards appoint insiders. Using it, we suggest and find that in the post-macro

shock period, firms appoint more long-tenured firm-focused board insiders to benefit from their non-fungible private information. Financially distressed firms have a higher demand for such board insiders during such difficult times.

Our findings have implications for the theory of the board insiders' private information generation processes (Adams & Ferreira, 2007) and public policies concerning corporate governance (Fauver et al., 2017). These results should be especially relevant to academics and other stakeholders in countries where the board configuration has systematically reversed, without much notice, in favor of board insiders post experiencing an AES.

Here onwards, we divide our study into five main sections. In the next section, we discuss the literature and develop our testable hypotheses. Next, we discuss our study's design. Following that, we report and discuss our results. In the penultimate section, we summarize all the endogeneity and robustness tests we have performed. We conclude this study by discussing our contributions, limitations, and future directions of the literature.

## LITERATURE AND HYPOTHESES

### Background on the corporate socialization theory

Unlike independent directors, a firm gainfully employs board insiders on a full-time basis. Therefore, board insiders are not only corporate directors—responsible for the firm's fiduciary duties—but they are also the firm's employees.

Prior literature suggests that employees pass through a complex organizational socialization process (Fang et al., 2011; Van Maanen & Schein, 1979). It enables the employees to become aware of the firm's operations and culture (Camerer & Vepsäläinen, 1988). Firms spend corporate resources to acclimatize their employees with the firm's corporate culture, especially at the point of entry. Corporate socialization occurs at several levels, including mentoring by supervisors, interaction with co-workers, and formal corporate training programs (Kammeyer-Mueller & Wanberg, 2003). Proactive corporate employees acquire information about the firm and their roles and responsibilities through many non-structured interpersonal and non-interpersonal sources (Ostroff & Kozlowski, 1992).

Some proactive corporate employees receive positive supervisor feedback (Seibert et al., 1999). They also likely receive greater corporate responsibilities (Grant & Ashford, 2008). As department leaders, corporate employees become immersed in the firm's corporate bureaucracy (Dugger, 1980). Through these channels of experiences, the corporate employees cultivate their insider network, create long-lived associations among peers and juniors, and create collegial comraderies

(Mao et al., 2012). While climbing the corporate ladder, the corporate leaders widen their experience by managing corporate bureaucracies, enabling them to become firm-specific executive experts. It also places them in the directorial talent-pool once they acquire sufficient bureaucratic authority and seniority. It is a unique form of Nahapiet & Ghoshal (1998) type of social capital that individuals cannot replicate outside the firm (Sauerwald et al., 2016). This firm-specific expertise generated through long-tenured corporate experience is *non-fungible*. In other words, individuals cannot acquire such expertise over the firm, its bureaucracy, its operations, and strategy through any other means other than working there for extended periods. It is potentially the source of the firm-specific private information that board insiders possess and makes them suitable candidates for board appointments (Adams & Ferreira, 2007; Harris & Raviv, 2008).

Board insiders also likely bring domain experience and expertise. Industry experience and financial expertise are probably the most common and sought-after domain experience (Guner et al., 2008). Nevertheless, such expertise is *fungible*.<sup>iv</sup> In other words, the board could acquire such expertise not only from board insiders but also from independent directors. Moreover, the board could receive fungible expertise from other channels, such as through informal discussions with junior executives (Boivie et al., 2016) or consultants. To acquire fungible expertise, the firms need not appoint board insiders, especially non-CEO board insiders (Bebchuk & Fried, 2005), and dilute the board's monitoring strength (Raheja, 2005) and risk insider co-option (Coles et al., 2014). This line of argument would also suggest that senior corporate new-hires have a distinct disadvantage as they are likely to have fungible experience and expertise. However, they would still need time to cultivate their insider networks to generate for themselves a firm-specific non-fungible social capital.

### When and to whom board insiders should matter

Before we address why boards appoint non-CEO board insiders, we set the stage by addressing *when* and *which* types of firms likely select them. We posit that a period of macro shock is likely to increase the demand for board insiders within the general population of firms<sup>v</sup> for three main reasons. First, the utility of the non-fungible private information held by board insiders (Adams & Ferreira, 2007) becomes crucial during post-macro shock periods. Second, during such a period, a balance of power tilted towards board insiders would enable them to take "collective responsibility" in decision-making (Feinberg, 1968) without the need for decision-delegation. That is because groups take collective responsibility, or "collective liability," when "members have mutual interests"; they are driven towards achieving "common objects," and they have "goods and harms" which are

“necessarily collective and indivisible” (Feinberg, p. 677). Besides, when independent directors control the board’s decision-making, they are likely to spend less effort acquiring firm-specific private information. It creates an additional risk of free-ridership (Harris & Raviv, 2008). Therefore, we state our Hypothesis 1 as follows:

**Hypothesis 1** Macro shock is positively associated with a higher representation of board insiders.

Here, financially distressed firms are a unique class of heterogeneous test-case firms whose board configuration decisions in the post-macro shock period require special attention. Going-concern firms facing macro difficulties generally have a host of organizational defenses, starting with a competent top executive team, effective board, robust liquidity position, and relatively stable financial performance. If anything, such firms are likely to act as safe havens for investors looking to park their investments during macro hardship periods (Johnson et al., 2000). Financially distressed firms during post-macro shocks face not only a challenging economic environment but also a lack of investors’ confidence. At this stage, boards heavy on monitoring are likely to face a severe need for credible firm-specific private information and practical decision-making skills (Harris & Raviv, 2008). Therefore, in Hypothesis 2, we suggest that financially distressed firms in the post-macro shock conditions would have a higher demand for board insiders:

**Hypothesis 2** In the post-macro shock period, financially distressed firms appoint a higher proportion of board insiders.

### Fungible versus non-fungible expertise

In the post-macro shock period, what expertise board insiders would bring to the financially distressed firm? We have previously suggested that board insiders have two channels to generate private information: fungible and non-fungible expertise. In Hypothesis 3, we posit that financially distressed firms in the post-macro shock period would appoint board insiders with *non-fungible* expertise to benefit from their ability to generate firm-specific private information. Moreover, firms would find less resistance from outside investors as the board insiders in the financially distressed firms are likely to find themselves in a unique position where their incentives and that of the stakeholders are the same, that is, the survival of the firm during periods of macro shock:

**Hypothesis 3** In the post-macro shock period, financially distressed firms appoint a higher proportion of board insiders with non-fungible expertise.

### Self-focused versus firm-focused board insiders

Agentic board configuration theory suggests that the decision to appoint board insiders faces severe incentive alignment problems (Bebchuk & Fried, 2005; Fama & Jensen, 1983). Here Acharya et al. (2011) have argued that the firm’s survival and performance beyond the present CEO’s tenure is of concern to the junior non-CEO executives. These non-CEO executives, during periods of financial and economic stress, could not only enforce corporate control via “internal governance” (Acharya et al., 2011) but offer viable corporate succession planning (Ocasio, 1999). However, when deciding to appoint board insiders, the firm and the investors have two types of non-CEO options. Appoint board insiders who have pre-established market credibility through their outside appointments or appoint board insiders whose primary focus is the firm, but they are untested outside. The picture that emerges from prior literature suggests that “busy” directors may not be effective board monitors (Fich & Shivdasani, 2006), but they could bring invaluable external network resources (Field et al., 2013; Pfeffer & Salancik, 1978). Masulis and Mobbs (2011) have shown that some *self-focused* board insiders with outside appointments such as “Certified Inside Directors” results in positive organizational outcomes.

Nevertheless, these self-focused board insiders, with full-time jobs, have a higher burden of responsibilities and time pressure than independent directors who sit on multiple boards. Therefore, firms facing financial distress during macro shock would want board insiders who are not only *firm-focused* but have an interest in its long-term well-being out of self-preservation and career-concern (Acharya et al., 2011). The firm-focused board insiders are also likely to have their ears-to-the-ground, and as a result, they are likely to possess superior quality non-fungible private information. Therefore, in Hypothesis 4, we posit that financially distressed firms in the post-macro shock period are likely to appoint firm-focused board insiders:

**Hypothesis 4** In the post-macro shock period, financially distressed firms appoint a higher proportion of firm-focused board insiders.

## RESEARCH DESIGN

### Sample

We collect the data for this study from five sources. Our global corporate board data is from the BoardEx database. BoardEx has emerged as a premier source of quality cross-country corporate governance data across several disciplines due to the availability of high-quality director-level profiles. The financial accounting and

market data are from the Worldscope database. We supplement our database by hand-collecting gender quota timings for each country in the sample. We collect the publicly available country-level data such as gross domestic product (*GDP*)/capita and foreign direct investment (*FDI*)/Capita from the World Bank database. To control institutional differences across countries, we utilize the time-varying country-level data made available by Guillén and Capron (2016). The Appendix contains a detailed list of all variables along with their sources.

The construction of our sample starts with the BoardEx database. To reduce noise and increase the reliability of our regression estimates, we apply some exclusionary criteria. The BoardEx universe consisted of director-level data from publicly listed firms from over a hundred countries. Most of these countries are small economies with only a few firm-year observations. We retained only those BoardEx countries in our sample with over eight years of continuous data with more than 100 firm-year observations. We eliminate firm-year observations with negative *Book Value* since they face significantly higher default risk. We also exclude firm-year observations with missing control variables. The macro shock that emerged from the financial crisis has its roots in the financial services sector despite its governance structures (Adams, 2012). Therefore, the exogenous shock may not be the sole reason to drive the board reorganization within this sector. Furthermore, governments own and operate utility sector firms across many countries. In a cross-country setting, there is no robust method to control such variations. Thus, we retained only the industrial sector firms<sup>vi</sup> with at least \$100 million in *Total Assets* (US\$, nominal<sup>vii</sup>) for all our hypothesis testing.

The timeline of our data initiates in the year 2002. The corporate governance data available on BoardEx before this year is of inferior quality. We allow some countries, such as Australia, Austria, China, and Singapore, to enter the database as late as 2005. We exclude countries whose data initiates in later years. We document statistically significant differences between non-Winsorized and Winsorized continuous variables using a two-sample mean difference t-test and Wilcoxon signed-rank test. Therefore, we use one-percentile (1 and 99%) two-sided Winsorized continuous variables for all our main tests.

## Measures

### Dependent variables

#### *Firm-level dependent variables*

At the firm-level, we have three main dependent variables. Our primary board variable is *Board Insiders*. We disaggregate board insiders into *Self-focused Insiders* and *Firm-focused Insiders*. *Self-focused Insiders* are the

non-CEO “certified” insiders who have secured at least one outside directorship (Masulis & Mobbs, 2011). *Firm-focused Insiders* are non-CEO board insiders who do not have any other outside affiliation. *Board Insiders* is the proportion of executive directors per *Board Size*. We use a similar method to calculate other board variables, that is, *Self-focused Insiders* and *Firm-focused Insiders*.

#### *Director-level dependent variables*

We measure non-fungible expertise using the length of firm-specific experience. Long-run firm-specific experience is non-fungible expertise. A director can acquire this expertise only by staying employed by the firm. We measure firm-specific expertise *BI Firm Experience* by coding a dummy variable as “1” if the *Board Insider* has longer tenure in the firm than on the board. It is a time-varying measure as the coding switches to “1” only in those years in which the firm tenure is higher than board tenure, “0” otherwise. This way, we mechanically exclude externally hired executive directors who simultaneously join the board and the firm. Alternatively, we use the second measure, *BI Net Firm Experience (ln)*, which is the log difference between the time served within the firm and on the board to ensure the primary reported result’s robustness.

Alternatively, we code two fungible expertise that *Board Insiders* are also likely to possess. They are industry experience depth, and financial expertise. We consider these as fungible expertise, as individuals can acquire them by being employed by a rival firm or across different sectors. Moreover, the firm could receive such expertise by hiring consultants and other similar channels without adding another insider to the board. We measure *Board Insiders’* industry experience depth (*BI Ind. Exp. Depth*) by counting the number of Fama–French 48 industries a director has worked in the past, per 48. A higher figure would indicate that the director has a broader industry experience depth. This figure is time-varying since it increases if the director accepts more board appointments outside their own Fama–French 48 industry. However, the measure’s value would not increase if the director only accepts new board positions within their industry. We measure financial expertise (*BI Fin. Expertise*) of a *Board Insider* if they have the following job titles: CFO, Finance Director, Financial Manager, Accounting Specialist, Investment Director, Controller, etcetera. This measure is also a time-varying measure as we code a *BI Fin. Expertise* as “1” only starting the year they have acquired the necessary corporate designation.

### Main explanatory variables

#### *Country-level macro shock timings*

We identify countries that experienced a macro shock using AES timing using the Zivot & Andrews’ (1992)

unit-root test for a single structural break.<sup>viii</sup> Our choice of an AES is motivated by the emerging accounting literature on aggregate earnings' information value (Konchitchki & Patatoukas, 2014; Shivakumar & Urcan, 2017). Specifically, Konchitchki and Patatoukas (2014) and Shivakumar and Urcan (2017) have suggested that aggregate earnings have significant explanatory power regarding the national GDP and future inflation.

This study proposes that a significant break or a *shock* in the aggregate earnings series across countries could trigger board re-configurations in treated countries only. Therefore, we perform the country-by-country structural break analysis on the industrial firms' equal-weighted aggregate earnings (aggregated using operating earnings). This way, we identify the countries experiencing a significant change in the mean and trend. Both in the short-term (temporary break) and if the shift is permanent.

This identification strategy has several merits. Here, the use of accounting earnings is deliberate. Earnings have to meet a considerably higher verifiability threshold than the market data, such as stock prices, which vary widely due to short-term market sentiments. Thus, firms may not take strategic decisions such as changes to their board configuration based solely on short-term market movements. Besides, CEOs have significant discretion over such a performance measure. They have an incentive to keep the firm's earnings series as stable as possible, especially during the macro hardship period (Healy & Wahlen, 1999; Leuz et al., 2003). It reduces the risk of over-identification of countries into the treatment sample, the main concern for our analysis. We suggest that a temporary or a systematic shock to the aggregate earnings series could prompt strategic board re-configuration action by insiders and investors alike.<sup>ix</sup> We avoid using generic GDP growth rates to model macro shock because of the arm's length at which such data is generated and a broader set of consumption indicators involved in producing such a series. Our use of the Zivot-Andrews unit-root test helps detect a change in the mean and trend in our aggregate earnings series because it assumes a single break-point in the data and econometrically minimizes the *t*-statistic to detect its location. By making the selection of the breaking point a part of the econometric process, we make the tacit *ex ante* assumption of the break-year unnecessary.<sup>x</sup>

We consider the firm-year observations from countries whose aggregate earnings series experienced a significant shift as the *AES Treatment* sample and code them "1" irrespective of the year. Therefore, firm-year observations that were coded "0" are from the *Control* sample countries. For the *Post* variable, we code "1" starting the year 2009 for all countries, "0" otherwise. That is because most countries experienced an AES beginning in the year 2008. Thereby, we accommodate

for a year's lag. This timeline is broadly consistent with financial economics research (Carey et al., 2012; Kalemli-Özcan et al., 2016).

Therefore, we code *AES Treatment x Post* as "1" for treatment countries, which experienced a shock in the aggregate earnings series starting the year in which Zivot-Andrews unit-root test detected a significant shift in mean and trend, "0" otherwise. Since some countries are likely to experience macro shock starting slightly different years, we expect the treatment of an AES to be akin to a staggered adoption (Athey & Imbens, 2021).

#### *Firm-level explanatory variable*

We code a firm-year as financially distressed if the firm's returns are below zero (i.e., negative) for two consecutive years. The dummy *Financial Loss* is coded "1" in the second year of the two successive years when the firm has a negative return. Therefore, *Financial Loss* is a time-varying variable that switches to "1" only in the second consecutive year of enduring a financial market loss. To test Hypothesis 2, in addition to the *Financial Loss* variable, we also use the *Board Insiders* as an additional explanatory variable.

#### *Control*

In this study, we employ four sets of control variables: (i) board; (ii) CEO; (iii) firm; and (iv) country controls. Following standard corporate governance research (Masulis & Mobbs, 2011; Zorn et al., 2017), we use *Board Size* (natural logarithm), *Board Gender Diversity*, *Board Tenure*, and *Board's Outside Affiliations* as board controls. The latter two variables are normalized using *Board Size* (all our results are qualitatively similar if we use natural logarithm instead). We identify if the CEOs hold dual roles (*CEO Duality*) using the "individual role" data available in the BoardEx database. Other CEO controls are *Woman CEO* and *CEO Turnover*. If a firm-year has two CEOs, then we retain the outgoing CEO because of legacy considerations. Following prior literature (Masulis & Mobbs, 2011; Zorn et al., 2017), we employ firm-level controls such as *Tobin's Q*, *Total Assets* (ln), profitability (*Operating ROA*), *Total Liabilities*, *Interest Rate*, *CapX*, *R&D*, *Cash Holdings*, *Ownership*, *Cross-Listed*, *Business Segments* (ln) and *Geographic Segments* (ln). We include the *IFRS Accounting Standard* dummy and *Big4 Auditors* dummy to control the firm-level mandatory and voluntary adoption of high-quality accounting standards across the world and financial reporting quality, which requires insiders' expertise.

Given that we employ cross-country data to test all our hypotheses, it is vital to control observable variations across institutional settings and countries. Several countries in our sample allow or mandate a two-tier board system with a separate supervisory board (Denis & McConnell, 2003; Ferreira & Kirchmaier, 2013). To control this country-level

variation, we code a dummy variable *Dual Board* as "1" if the country allows or mandates a two-tier board structure, "0" otherwise. All results are qualitatively similar if, instead of *Dual Board*, we use the proportion of supervisory directors. Guided by previous research (Fauver et al., 2017), we use *GDP* and *FDI* as our main time-varying country controls. The seminal study by La Porta et al. (1998) has shown that countries have institutional differences owing to their legal origins, resulting in variations in their minority shareholder protection. However, due to their identification strategy's static nature, we employ Guillén & Capron's (2016) data on time-varying cross-country minority-shareholder protection scores (*SRI*) to control for institutional differences. Given a country's unique institutional arrangement, the board's labor market could lead to significant unobserved variations, creating supply-side constraints (Knyazeva et al., 2013). Therefore, to control for such variations, we create a variable called *Indp. Board Market*. We measure it as the difference between the number of *rookie* independent directors (defined by no prior board experience within listed firms) and the number of independent directors who drop-off the board labor market (defined by those directors who never reappear in any of the subsequent year's corporate board, irrespective of the firm). We normalize the resulting figure by the total number of board seats in a country-year. Several countries have passed laws to mandate women's representation on corporate boards. It could likely alter the board's structure across the affected countries (Ahern & Dittmar, 2012). To control for it, we code a dummy variable *Gender Quota* as "1" starting the year a country passed a law to mandate women's representation on corporate boards, "0" otherwise. In the Appendix, we describe the method employed to create all the variables used in this study.

### The difference-in-difference empirical model

To test Hypothesis 1, we construct our staggered, dynamic cross-sectional DID model (Card & Krueger, 1994). Using DID, we exploit the comparison between the treatment sample (which experienced a significant AES) and the control sample (which did not). Furthermore, we also exploit the AES's staggered timing (identified using a break in the country-level aggregate earnings series) in the treatment sample against the same period in the control sample. Given that no single firm can drive the country to experience an AES, the selection of its country-level break dates is exogenous to the post-period board configuration decisions (Zivot & Andrews, 1992). Therefore, the categorization of countries in the treatment or the control samples for the DID model is also randomized.<sup>xi</sup> We present the basic structure of the DID model as follows:

$$y_{i,t} = \alpha + \beta_1 AES Treatment_{i,t} + \beta_2 Post_{2009} + \beta_3 AES Treatment \times Post_{i,t} + \sum_{\beta=4}^n \beta_n x_{i,t} + \sum_{\beta=n+1}^m \beta_m z_{i,t-1} + Year FE + Unit FE + \nu_{i,t}. \quad (1)$$

Here, we identify the dependent variable as the firm  $i$ , across  $t$  years. In this model, the coefficient  $\beta_3$ , associated with the *Treatment*  $\times$  *Post* represents the post-AES period's incremental effect. Here  $x$  and  $z$  are a set of contemporaneous and lagged covariates. Since board configuration is a contractual process, any change to its structure requires time-lags. Therefore, we lag the controls, such as firm size, performance, etc., by one year (the  $x$  controls). However, while time-varying, some controls do not change within the firm over the years (the  $z$  controls). Chief among them is the business and geographic segments. We do not lag these variables when including them in the controls. Here,  $m$  and  $n$  identified the maximum number of lagged and non-lagged controls. We use the Year fixed-effects (*Year FE*) to control for time-varying changes. We control time-invariant unobserved factors such as corporate culture (Camerer & Vepsäläinen, 1988) using group effects (*Unit FE*) such as within-firm fixed-effects in the firm-level analysis and industry fixed-effect in the director-level analysis. Thus,  $\nu$  is the white noise with an assumed normal distribution. We estimate the model using an ordinary least square (OLS) estimator.<sup>xiii</sup> We test Hypotheses 2–4 by modifying the basic DID, as discussed later.

## MAIN RESULTS

In Table 1, we report our sample statistics. Our selection criteria have yielded a global industrial sample from 23 countries with 42,867 firm-year and 330,447 director-firm-year observations from 6,385 unique firms. In this table, the primary variable of interest is *AES Begins*. It reports Zivot & Andrews' (1992) test result on the country-by-country mean aggregate earnings series<sup>xiii</sup> of industrial firms to identify structural breaks at a 5% significance level.<sup>xiv</sup> According to its findings, nine countries, including the US,<sup>xv</sup> experienced an AES. The timings are clustered around 2008–2010<sup>xvi</sup> in a staggered manner (Athey & Imbens, 2021).<sup>xvii</sup> The countries highlighted in the *AES Begins* constitute our *AES Treatment* sample.<sup>xviii</sup> We illustrate our research design using a figure (reported in the *Supporting Information* document).

In Table 2, we report the sample descriptive statistics. We find that an average board is composed of nine directors (Panel A). *Firm-focused Insiders* hold over 17% of the directorships, whereas the *Self-focused Insiders* occupy about 7.6% of board seats.<sup>xix</sup> In Panel B of

TABLE 1 Sample statistics

Countries	OBS.	Firms	Sample begins	Aes begins	Dual Board	GDP	FDI	Guillen-Capron Sri	INDP board market	Gender quotas
Australia	2,141	446	2004	2010		56.6	0.045	6.75	-0.044	
Austria	160	32	2005		Yes	48.6	0.005	6.50	-0.016	
Belgium	366	56	2002	2009		44.7	0.044	5.00	-0.005	Passed 2011
Canada	2,267	479	2002			47.4	0.062	6.75	-0.029	
China	791	202	2005	2011		7.1	0.268	6.66	-0.050	
Denmark	189	30	2002		Yes	58.5	0.002	3.00	-0.004	
Finland	249	51	2002			47.4	0.007	6.50	-0.015	
France	2,345	267	2002		Yes	40.9	0.042	7.25	-0.006	Passed 2011
Germany	1,469	232	2002		Yes	41.8	0.060	6.50	-0.001	Passed 2015
Greece	233	31	2002		Yes	22.2	0.002	5.00	-0.017	
Ireland	437	62	2002	2008		52.1	0.041	0.00	-0.028	
Israel	338	62	2002	2009		32.5	0.009	0.00	-0.018	Passed 2007
Italy	513	84	2002		Yes	35.4	0.017	6.85	-0.011	Passed 2011
Luxembourg	94	21	2002		Yes	106.7	0.010	6.25	-0.028	
Netherlands	677	91	2002	2010	Yes	50.3	0.195	5.50	-0.026	Passed 2013
Norway	433	68	2002			87.8	0.010	5.75	-0.021	Passed 2003
Portugal	204	24	2002	2008	Yes	22.1	0.008	6.50	-0.009	
Singapore	597	178	2005	2008		54.9	0.064	7.25	-0.015	
Spain	533	73	2002			29.2	0.034	4.75	-0.012	Passed 2007
Sweden	751	89	2002			52.1	0.009	6.25	-0.018	
Switzerland	679	85	2002		Yes	74.6	0.021	4.60	-0.013	
United Kingdom	5,386	765	2002			41.8	0.059	6.63	-0.027	
United States	22,015	2,957	2002	2010		48.4	0.257	7.25	-0.031	

Notes: In this table, we present the sample statistics. Obs. is the number of firm-year observations per country. Firms identify the number of unique firms per country. Next, we report the year in which each country enters our dataset. AES BEGINS identifies the countries and the year in which countries experienced AES using the Zivot & Andrews (1992) test. DUAL BOARD identifies countries that allow or mandate dual board structure. Following that, we report the GDP per capita (in current \$U.S. thousands) and FDI per capita (in current \$U.S. millions), respectively. Next, we report the average Guillen & Capron (2016). In the next column, we report the board independence market's average expansion rate (INDP BOARD MARKET). GENDER QUOTA identifies the country that has passed a board gender reform law.



TABLE 2 Descriptive statistics

Variables	(1) Obs	(2) Mean	(3) Sd	(4) 25%	(5) 50%	(6) 75%	(7) Min	(8) Max
Panel A: Firm-level dependent variables								
Board insiders	42,867	0.359	0.237	0.167	0.300	0.500	0.000	1.000
Self-focused insiders	42,867	0.076	0.124	0.000	0.000	0.125	0.000	0.636
Firm-focused insiders	42,867	0.174	0.200	0.000	0.125	0.286	0.000	0.857
Panel B: Firm-level explanatory variables								
AES treatment	42,867	0.643	0.479	0.000	1.000	1.000	0.000	1.000
Post (2008)	42,867	0.680	0.467	0.000	1.000	1.000	0.000	1.000
AES treatment X post (2009)	42,867	0.335	0.472	0.000	0.000	1.000	0.000	1.000
Financial loss	42,867	0.162	0.368	0.000	0.000	0.000	0.000	1.000
Board size	42,867	8.847	2.873	7.000	8.000	10.000	4.000	20.000
Board gender diversity	42,867	0.103	0.107	0.000	0.100	0.167	0.000	0.429
Board tenure (years)	42,867	7.396	4.070	4.422	6.683	9.550	0.000	35.975
Outside affiliations (board AVG.)	42,867	1.855	0.637	1.389	1.750	2.200	0.000	7.833
Dummy: CEO duality	42,867	0.359	0.480	0.000	0.000	1.000	0.000	1.000
Dummy: Woman CEO	42,867	0.025	0.156	0.000	0.000	0.000	0.000	1.000
Dummy: CEO turnover	42,867	0.086	0.281	0.000	0.000	0.000	0.000	1.000
Tobin's Q	42,867	1.748	1.091	1.084	1.418	2.009	0.562	7.531
Operating ROA	42,865	0.072	0.095	0.031	0.074	0.118	-0.317	0.342
Total assets (\$B)	42,867	5.287	13.101	0.364	1.048	3.527	0.105	88.29
Total liabilities	42,867	0.505	0.206	0.361	0.518	0.652	0.008	1.000
Interest rate	42,521	0.024	0.020	0.009	0.020	0.033	0.000	0.142
CAPX	42,854	0.054	0.059	0.018	0.035	0.067	0.000	0.349
R&D	42,867	0.024	0.055	0.000	0.000	0.021	0.000	0.753
Cash holdings	42,867	0.153	0.164	0.040	0.096	0.207	0.000	0.936
Ownership	42,658	0.263	0.242	0.046	0.208	0.420	0.001	0.934
Dummy: Cross-listed	42,867	0.312	0.463	0.000	0.000	1.000	0.000	1.000
Business segments	42,867	0.913	0.701	1.000	3.000	4.000	0.000	2.303
Geographic spread	42,867	0.671	0.702	1.000	2.000	4.000	0.000	2.303
Dummy: IFRS accounting standard	42,867	0.366	0.482	0.000	0.000	1.000	0.000	1.000
Dummy: Big4 auditors	42,867	0.868	0.339	1.000	1.000	1.000	0.000	1.000
Dual boards	42,867	0.153	0.360	0.000	0.000	0.000	0.000	1.000
GDP/Capita (\$U.S. TH)	42,867	46.655	11.052	41.81	47.00	51.45	1.753	119.22
FDI/Capita net inflow (\$U.S. M)	42,867	0.169	0.131	0.049	0.138	0.259	-0.030	0.734
Guillen-capron SRI	42,092	6.849	0.720	6.625	7.250	7.250	1.750	7.375
INDP. DIR. Board market	42,867	-0.023	0.016	-0.037	-0.028	-0.011	-0.055	0.015
Dummy: Gender quota	42,867	0.065	0.247	0.000	0.000	0.000	0.000	1.000
Panel C: Director-level dependent variables								
Dummy: BI firm experience	330,447	0.055	0.228	0.000	0.000	0.000	0.000	1.000
BI IND. EXP. depth	330,447	0.013	0.022	0.000	0.000	0.021	0.000	0.104
Dummy: BI FIN. expertise	330,447	0.016	0.125	0.000	0.000	0.000	0.000	1.000
Panel D: Director-level controls								
Dummy: CEO duality	330,447	0.043	0.202	0.000	0.000	0.000	0.000	1.000
Dummy: Supervisory director	330,447	0.126	0.332	0.000	0.000	0.000	0.000	1.000
Dummy: Woman director	330,447	0.107	0.309	0.000	0.000	0.000	0.000	1.000
Dummy: Chair	330,447	0.121	0.326	0.000	0.000	0.000	0.000	1.000
Dummy: Ceo turnover	330,447	0.091	0.287	0.000	0.000	0.000	0.000	1.000

(Continues)

TABLE 2 (Continued)

Variables	(1) Obs	(2) Mean	(3) Sd	(4) 25%	(5) 50%	(6) 75%	(7) Min	(8) Max
Firm experience	330,447	8.538	8.179	2.700	5.900	11.400	0.100	38.900
Board experience	330,447	7.420	6.833	2.500	5.400	10.000	0.100	32.900
Outside affiliation	330,447	1.912	1.255	1.000	1.000	2.000	1.000	7.000
Age	330,447	58.951	9.326	52.000	59.000	66.000	35.000	81.000

Notes: In this table, we present the sample statistics for the full industrial sample. Please see Appendix A for the description of the method of construction of all variables. We winsorized all continuous variables at one%ile levels (1, 99).

TABLE 3 Firm-level analysis—determinants of board configuration

Model Panel A Dependent	(1) Board Insiders	(2)	(3)	(4)
AES Treatment <sub>(C)</sub>	−0.007*** (0.00)	−0.014*** (0.00)	−0.006*** (0.00)	−0.006*** (0.00)
Post (2009) <sub>(T)</sub>	−0.087*** (0.00)	−0.092*** (0.00)	−0.080*** (0.00)	−0.080*** (0.00)
<b>AES treatment x Post (2009)<sub>(C,T)</sub> (H1)</b>		<b>0.014*** (0.00)</b>	<b>0.013*** (0.00)</b>	<b>0.012*** (0.00)</b>
Dummy: Financial loss <sub>(I,T-1)</sub>			−0.007*** (0.00)	−0.011*** (0.00)
<b>AES treatment x Post (2009) x financial loss (T-1)<sub>(C,I,T)</sub> (H2)</b>				<b>0.013*** (0.00)</b>
Board size (LN) <sub>(I,T-1)</sub>			0.048*** (0.00)	0.048*** (0.00)
Board gender diversity <sub>(I,T-1)</sub>			−0.150*** (0.00)	−0.149*** (0.00)
Board tenure <sub>(I,T-1)</sub>			0.013*** (0.00)	0.013*** (0.00)
Board's outside affiliations <sub>(I,T-1)</sub>			−0.032 (0.10)	−0.032 (0.10)
Dummy: CEO duality <sub>(I,T-1)</sub>			−0.003** (0.01)	−0.003** (0.01)
Dummy: Woman CEO <sub>(I,T-1)</sub>			−0.000 (0.96)	−0.000 (0.95)
Dummy: CEO Turnover <sub>(I,T-1)</sub>			−0.001 (0.41)	−0.001 (0.43)
Tobin's Q <sub>(I,T-1)</sub>			0.002** (0.02)	0.002** (0.01)
Operating ROA <sub>(I,T-1)</sub>			−0.025*** (0.00)	−0.025*** (0.00)
Total assets (LN) <sub>(I,T-1)</sub>			−0.014 (0.24)	−0.014 (0.25)
Total liabilities <sub>(I,T-1)</sub>			−0.002 (0.83)	−0.002 (0.82)
Interest rate <sub>(I,T-1)</sub>			0.143***	0.144***

(Continues)

TABLE 3 (Continued)

Model Panel A Dependent	(1) Board Insiders	(2)	(3)	(4)
			(0.00)	(0.00)
CAPX <sub>(i,T-1)</sub>			0.044***	0.044***
			(0.01)	(0.01)
R&D <sub>(i,T-1)</sub>			-0.142***	-0.142***
			(0.00)	(0.00)
Cash holdings <sub>(i,T-1)</sub>			-0.014*	-0.014*
			(0.08)	(0.08)
Ownership <sub>(i,T-1)</sub>			0.051***	0.051***
			(0.00)	(0.00)
Dummy: Cross-listed <sub>(i,T)</sub>			-0.008***	-0.008***
			(0.00)	(0.00)
Business segments (LN) <sub>(i,T)</sub>			-0.009***	-0.009***
			(0.00)	(0.00)
Geographic spread (LN) <sub>(i,T)</sub>			-0.009***	-0.009***
			(0.00)	(0.00)
Dummy: IFRS accounting standard			0.011***	0.011***
			(0.00)	(0.00)
Dummy: BIG4 Auditors			-0.009***	-0.009***
			(0.00)	(0.00)
Dummy: Dual boards <sub>(C)</sub>	-0.001	-0.001	-0.002	-0.002
	(0.72)	(0.72)	(0.26)	(0.28)
GDP/Capita <sub>(C,T-1)</sub>	-0.047***	-0.047***	-0.027***	-0.027***
	(0.00)	(0.00)	(0.00)	(0.00)
FDI/Capita net inflow <sub>(C,T-1)</sub>	0.007***	0.005***	0.005***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)
Guillen-capron SRI (LN) <sub>(C,T-1)</sub>	-0.029*	-0.029*	-0.021	-0.021
	(0.05)	(0.06)	(0.18)	(0.17)
INDP. DIR. board market <sub>(C,T-1)</sub>	0.481***	0.589***	0.481***	0.469***
	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: Gender quota <sub>(C,T-1)</sub>	-0.012***	-0.011***	-0.011***	-0.011***
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.064***	0.065***	0.064***	0.065***
	(0.00)	(0.00)	(0.00)	(0.00)
Firm fixed-effect	Yes	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes	Yes
OBS.	42,867	42,867	42,867	42,867
Firms	6,385	6,385	6,385	6,385
ADJ. R-SQR	0.113	0.114	0.156	0.157
Overall p-value	0.00	0.00	0.00	0.00
AVG. VIF	3.48	3.69	2.48	2.48
F-Test statistic (baseline, interaction) p-value		0.00	0.00	0.00
Estimator	OLS	OLS	OLS	OLS

(Continues)

TABLE 3 (Continued)

Model Panel B Dependent	(1) Self-Focused Insiders	(2)	(3) Firm-Focused Insiders	(4)
AES treatment <sub>(C)</sub>	-0.000 (0.95)	-0.000 (0.93)	-0.005*** (0.00)	-0.005*** (0.00)
Post (2009) <sub>(T)</sub>	-0.017*** (0.00)	-0.017*** (0.00)	-0.058*** (0.00)	-0.058*** (0.00)
AES treatment x post (2009) <sub>(C,T)</sub>	0.005** (0.04)	0.004* (0.07)	0.007*** (0.01)	0.006** (0.02)
Dummy: Financial loss <sub>(I,T-1)</sub>	-0.001 (0.38)	-0.002 (0.12)	-0.006*** (0.00)	-0.009*** (0.00)
<b>AES treatment x post (2009) x financial loss (T-1)<sub>(C,I,T)</sub> (H4)</b>		<b>0.004*</b> <b>(0.06)</b>		<b>0.009***</b> <b>(0.00)</b>
Constant	0.013*** (0.00)	0.013*** (0.00)	0.049*** (0.00)	0.050*** (0.00)
Other controls	Yes	Yes	Yes	Yes
Firm fixed-effect	Yes	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes	Yes
OBS.	42,867	42,867	42,867	42,867
Firms	6,385	6,385	6,385	6,385
ADJ. R-SQR	0.046	0.047	0.098	0.098
Overall p-value	0.00	0.00	0.00	0.00
AVG. VIF	2.48	2.48	2.48	2.48
F-test statistic (baseline, interaction) p-value	0.03	0.04	0.00	0.00
Estimator	OLS	OLS	OLS	OLS

Notes: In this table, we present the difference-in-difference determinants of board configuration model estimates using the within-firm fixed-effect OLS estimator. We report the two-tailed p-values underneath the coefficients within parenthesis. We report the method used to construct all variables in Appendix A. Variables are country (C), firm (I), and time-indexed (T), as shown in the table. We report the model's adjusted R-square and the p-value of the model's overall F-Stat. In the F-test for an incremental explanation, the baseline refers to a model without the main interaction of interest. We cluster the robust standard errors at the firm-level. We report the statistical significances as follows: (Two-tailed) \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01.

Table 2, we report the descriptive statistics of the control variables measured at the firm-level. In Panel C of Table 2, we report the descriptive statistics of the director-level variables. We find that over 5% of the directorships are held by board insiders who have more experience in the firm than on the board (*BI Firm Experience*).<sup>xx</sup> *Board Insiders* have an average industry depth (number of Fama–French industry worked in the past, per 48) of over 1% (*BI Ind. Exp. Depth*). We also find that about 1.6% of the corporate insiders have financial expertise (*BI Fin. Expertise*). In Panel D, we report the director-level controls' descriptive statistics, which we do not include in the firm-level controls.

In Panel A of Table 3, we report our firm fixed-effect OLS DID model's regression results, where our primary dependent variable is *Board Insiders*. Model 1 is the base model. In Model 2, we introduce the *AES Treatment x Post*. In Model 3, we include firm-level controls. In Model 4, we introduce the modified DID with *Financial Loss*. All results are consistent if we include a fully interactive model wherein we interact all controls with the

*AES Treatment* and *Post* variables; for brevity, we do not report these results.

In the full model (Model 4), the results indicate that the coefficient loading on the *AES Treatment x Post* is statistically significant and positive at conventional confidence levels ( $\beta = 0.012, p < 0.00$ ). This coefficient loading indicates that the proportion of *Board Insiders* increased by 3.34% in the treated sample compared to the control sample in the post-AES period.<sup>xxi</sup> In the full model, the coefficient loading on the modified interaction *AES Treatment x Post x Financial Loss* is also positive and statistically significant ( $\beta = 0.013, p < 0.00$ ). It indicates an additional 3.62% increase in the levels of *Board Insiders* in the post-AES period, which is in addition to the 3.34 increase we documented earlier as an average effect. It means that *Financial Loss* firms increased their *Board Insiders* levels by about 7% in the post-AES period. At the bottom of the table, we report the F-test for the significance of interactions' incremental explanation. The p-values of the F-test are consistently significant for all models ( $p < 0.00$ ). The median

TABLE 4 Director-level analysis—director selection channels

Model Dependent	(1) BI Firm Experience	(2) BI IND. EXP. Depth	(3) BI FIN. Expertise
AES Treatment <sub>(C)</sub>	−0.021*** (0.00)	−0.007*** (0.00)	−0.001 (0.19)
Post (2009) <sub>(T)</sub>	−0.035*** (0.00)	−0.000 (0.50)	0.029*** (0.00)
AES Treatment x post (2009) <sub>(C,T)</sub>	0.013*** (0.00)	0.004*** (0.00)	−0.004*** (0.00)
Dummy: Financial loss (T-1) <sub>(I,T)</sub>	0.001 (0.62)	0.000 (0.10)	−0.000 (0.99)
<b>AES treatment x post (2009) x financial loss (T-1)<sub>(C,I,T)</sub> (H3)</b>	<b>0.005**</b> <b>(0.04)</b>	0.000 (0.58)	−0.001 (0.48)
Dummy: CEO Duality <sub>(I,J,T)</sub>	0.083*** (0.00)	0.014*** (0.00)	−0.010*** (0.00)
Dummy: Supervisory director <sub>(I,J,T)</sub>	−0.059*** (0.00)	0.002*** (0.00)	−0.051*** (0.00)
Dummy: Woman director <sub>(I,J,T)</sub>	−0.036*** (0.00)	−0.005*** (0.00)	−0.013*** (0.00)
Dummy: Chair <sub>(I,J,T)</sub>	−0.005*** (0.00)	0.013*** (0.00)	−0.014*** (0.00)
Dummy: Financial expertise <sub>(I,J,T)</sub>	0.122*** (0.00)	0.015*** (0.00)	
Dummy: Ceo change <sub>(I,J,T)</sub>	0.020*** (0.00)	0.001*** (0.00)	−0.001* (0.07)
Board tenure (LN) <sub>(I,J,T)</sub>		0.003*** (0.00)	0.001*** (0.00)
Outside affiliation (LN) <sub>(I,J,T)</sub>	−0.048*** (0.00)	0.003*** (0.00)	−0.011*** (0.00)
Age square (LN) <sub>(I,J,T)</sub>	−0.026*** (0.00)	−0.003*** (0.00)	−0.010*** (0.00)
Constant	0.391*** (0.00)	0.045*** (0.00)	0.295*** (0.00)
Other controls	Yes	Yes	Yes
FF48 industry fixed-effect	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes
OBS.	330,447	330,447	330,447
ADJ. R-SQR	0.076	0.238	0.038
Overall p-value	0.00	0.00	0.00
AVG. VIF	3.52	3.50	3.53
F-test statistic (baseline, interaction) p-value	0.00	0.00	0.00
Estimator	OLS	OLS	OLS

Notes: This table presents the director-level difference-in-difference determinants of board configuration model estimates using the OLS estimator. We report the two-tailed p-values underneath the coefficients within parenthesis. We report the method used to construct all variables in Appendix A. Variables are country (C), firm (I), director (J), and time-indexed (T), as shown in the table. We report the model's adjusted R-square and the p-value of the model's overall F-Stat. In the F-test for an incremental explanation, the baseline refers to a model without the main interaction of interest. We cluster the robust standard errors at the firm-level. We report the statistical significances as follows: (Two-tailed) \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01.

Variance inflation factor (VIF) across all models is below 4, indicating a low probability of multicollinearity. Nearly all firms in our sample have their CEOs on the board. Therefore, it is likely that non-CEOs drive almost all of the variations in *Board Insiders* in the post-AES period. These results provide support to our Hypotheses 1<sup>xxii</sup> and 2, respectively. These results are also an endorsement of our country-sorting method based on the AES. Figure 1, which shows the *Board Insiders*' raw proportion across the *AES Treatment* and *Control* samples, gives visual support to our regression results.

In Panel B of Table 3, we disaggregate the *Board Insiders* into *Self-focused Insiders* and *Firm-focused Insiders*. We calculate both variables without including the CEOs on the board. Our results suggest that *Firm-focused Insiders* mainly drive the demand for board insiders among the *Financial Loss* firms ( $\beta = 0.009$ ,  $p < 0.01$ ) rather than *Self-focused Insiders*<sup>xxiii</sup> ( $\beta = 0.004$ ,  $p = 0.06$ ). The coefficient mean-difference test (Paternoster et al., 1998) across the regression estimates in the reported main models suggests that the relative increase in the *Firm-focused Insiders* compared to *Self-focused Insiders* is significant at a 10% confidence level. In the robustness test, when we use PSM samples (reported in the *Supporting Information* document) or we adopt the bootstrapping technique (with 50 resamplings; untabulated), we find that the *AES Treatment*  $\times$  *Post*  $\times$  *Financial Loss* loads non-significantly when the dependent variable is *Self-focused Insiders*. When the dependent is *Firm-focused Insiders*, the coefficient remains large and significant at better confidence levels ( $\beta = 0.011$ ;  $p$ -value $<0.00$ ). In this case, the mean difference test is significant at the 1% level. Therefore, we find support for Hypothesis 4.

Table 4 addresses the first mechanism of why *Financial Loss* firms selected some *Board Insiders* in the post-AES period. We test this using the *AES Treatment*  $\times$  *Financial Loss*'s loading on the director-level *Board Insiders*' non-fungible expertise (*BI Firm Experience*). For comparison, we report results using fungible expertise, too, such as industry-experience depth (*BI Ind. Exp. Depth*) and financial expertise (*BI Fin. Expertise*). We construct this test at the director-level data to control for observable demographics, work experience, and expertise covariates of the directors, which got omitted in the firm-level analysis. As discussed in earlier sections, we also include all other board-, CEO, firm- and country-level controls in these tests. Since we estimate the regression models at the director-level, we control time-invariant unobserved factors using industry fixed-effects. *AES Treatment*  $\times$  *Post*  $\times$  *Financial Loss* loads positively and statistically significantly only for the non-fungible expertise *BI Firm Experience* ( $\beta = 0.005$ ,  $p < 0.05$ ). Our results are qualitatively similar if we use logit or probit estimators. For brevity, we do not report these results. These results are qualitatively similar if we use the continuous variable to measure *BI Net Firm Experience* (*ln*). We

report this result in the *Supporting Information* document. There we also report regression estimates, which show that *Firm-focused Insiders* drive the non-fungible expertise results. When taken together, these results provide support for Hypothesis 3.

## ENDOGENEITY AND ROBUSTNESS ANALYSIS

To further ensure our results' robustness, we adopt the nearest neighbor PSM technique (Guo & Fraser, 2015) for the firm-level analysis. We ensure the robustness of our director-level analysis using other dependent variables. Besides, we perform a battery of other robustness tests. Some of them are as follows: we perform sensitivity tests using alternative sub-samples, model specifications, AES timings, system GMM estimator (untabulated) (Wintoki et al., 2012), and placebo tests. In the interest of brevity, we discuss and report these tests in the *Supporting Information* document. All our inferences find support from these additional analyses.

## CONCLUDING DISCUSSION

### Contributions

This study offers new insights on why, when, and to whom board insiders should matter in a cross-country difference-in-difference empirical setting. Our first contribution suggests *why* board insiders matter to the firms. It is a salient question since most prior studies related to board insiders focus on the agency risk associated with them using the firms' financial performance as its revealing mechanism (Coles et al., 2008; Masulis & Mobbs, 2011; Zorn et al., 2017). It leaves a broad research gap in our understanding of board insiders on why they receive board appointments, especially non-CEOs. Prior research posits that board insiders might have private information, but it is unclear if it is a helpful selection mechanism (Baysinger & Hoskisson, 1990; Adams & Ferreira, 2007; Boivie et al., 2016). We suggest two non-mutually exclusive selection mechanisms by building on the corporate socialization theory. First, board insiders develop a unique social capital by gaining non-fungible expertise over the firm through their long-run tenure as employees and executives. This intra-firm local network-based social capital (Nahapiet & Ghoshal, 1998; Sauerwald et al., 2016) is difficult for outsiders, such as independent directors or consultants, to acquire. Second, board insiders' firm-focus rather than self-focus is quite relevant for the director selection decisions, especially during special conditions, such as in the post-AES period. It also relates to the non-fungible private information generation process since firm-focused board insiders are likely to have their ears-to-

the-ground rather than have excessive demands on their executive time through outside appointments. Consistent with our theory, we document that firms appoint long-tenured and firm-focused board insiders in the post-AES period.

In our second contribution, we focus on to *whom* board insiders should matter the most. We show that financially distressed firms, which face the double-jeopardy of weaker investors' perception during a period of macro hardship, appoint more long-tenured and firm-focused board insiders. The financially distressed firms' board appointments during the post-AES period are especially revealing since insiders find a rare moment of agency convergence with its stakeholders. It is based on self-preservation and the firm's survival. During such a period, we document that these firms have a stronger demand for long-tenured firm-focused board insiders, which is in addition to the average firms' needs. It suggests that despite considerable monitoring challenges (Adams & Ferreira, 2007), such directors could provide assistance and future direction through their non-fungible private information sources.

Our third contribution is on *when* board insiders should matter to the firms. Owing to the endogeneity challenges imposed on the empirical corporate governance research (Hermalin & Weisbach, 1998; Wintoki et al., 2012), it is generally difficult to ascertain with a high degree of certainty why some firms have a specific board configuration (Bhagat & Black, 2001; Boivie et al., 2016). An emerging strand of empirical literature has responded to this challenge by using unique identification strategies such as "sudden deaths" and "CEO-only" boards (Nguyen & Nielsen, 2010; Zorn et al., 2017). Others have exploited regulatory changes (Ahern & Dittmar, 2012; Choi et al., 2007; Duchin et al., 2010; Fauver et al., 2017). We contribute to this literature by adding a new cross-country context of the *aggregate earnings shocks*. Using this setting, we document that even non-R&D intensive firms (Coles et al., 2008) appoint more board insiders in the post-macro shock period. We *causally* infer these results due to the low endogeneity risk.

### Implications, limitations, and future directions

Several implications and limitations follow. Studying the US context, Zorn et al. (2017) have documented that a significant proportion of firms have resorted to the "CEO-only" board. Globally, policymakers have invested considerable regulative and legislative time and effort to increase the board's monitoring outcomes through higher board independence (Fauver et al., 2017). Nevertheless, in this study, we document that firms have reversed the declining trend of the board insiders in the AES treatment countries during the post-period. Most interestingly, we notice that

globally, most regulators have adopted board gender diversity as the primary regulatory instrument (see Table 1) instead of focusing on the board's monitoring needs. While board gender diversity is a vital dimension of the board, regulators should increase their vigilance to ensure the board insiders' increase does not adversely affect the firms' stakeholders by being co-opted by the CEOs (Coles et al., 2014). On their part, investors must assess how the newly minted board insiders are likely to use their non-fungible expertise and long-tenured experience to benefit the firms' performance and policies by taking collective responsibility (Feinberg, 1968). Or are they harbingers of agency risks?

Our study has some other limitations too. These results illuminate the non-CEO board insider selection strategy within the industrial sector firms, especially in the post-AES period. Our study leaves open questions about what personality types, gender, social identities, behavioral traits, or corporate culture (Camerer & Vepsäläinen, 1988; Ostroff & Kozlowski, 1992) enable or hinder certain kinds of corporate employees or department leaders from rising to the board positions. Future studies could explore these questions using the AES context. Finally, studies could also explore how AES or, more generally, the financial crisis affects the financial and utility sector firms' governance and performance in a cross-country setting.

### ACKNOWLEDGMENTS

We thank Desislava Dikova, the editor of *European Management Review*, and the anonymous referees for their help, insight and guidance during the review process. We thank Steven Boivie, Niels Hermes, Chun-Keung (Stan) Hoi, Swarnodeep Homroy, Reggy Hooghiemstra, Abe de Jong, Esha Mendiratta, and Mariateresa Torchia (EURAM discussant) for their comments and suggestions. We also thank the 2020 AIB Online conference, 2018 EURAM conference (Reykjavik, Iceland) participants for their comments and suggestions. The paper was the finalist of the "*Temple AIB Best Paper Award*" at the 2020 AIB Online conference. 9th Financial Markets and Corporate Governance Conference, The La Trobe Business School, Melbourne, Australia, shortlisted the paper for the "*Best Paper in Corporate Governance/Social Responsibility*" award (the authors withdrew the paper due to travel visa issues). The University of Groningen's Library Department provided access to BoardEx and Worldscope databases. We acknowledge their assistance with gratitude. We circulated an earlier version of this paper with the title "Board Composition Paradox: Are Board Insiders Valued Advisers or Harbingers of Agency-Cost?" Usual disclaimers apply.

### ORCID

Shibashish Mukherjee  <https://orcid.org/0000-0002-4382-7572>

## ENDNOTES

<sup>i</sup>It does not rule out the possibility that independent directors could also provide quality advice. Nonetheless, to do so, they would have to depend on the same board insiders for firm-specific private information, giving them a greater context to facilitate quality advice (Adams & Ferreira, 2007).

<sup>ii</sup>Corporate governance literature faces a pronounced risk of endogeneity, where concerns about reverse causality make an inference of regression results from a causal perspective difficult if not impossible (Hermalin & Weisbach, 1998). A significant macro shock faced by some countries due to the spill-over effect of the 2008–2010 global financial crisis (or AES) allows us to test the board configuration choices in a difference-in-difference setting (Card & Krueger, 1994). It provides a cleaner interpretation of the results.

<sup>iii</sup>This literature posits that aggregate earnings have information value for the macro-economy (see, e.g., Konchitchki & Patatoukas, 2014 and Shivakumar & Urcan, 2017). We posit that an unexpected short-term or permanent AES would affect how corporate boards would configure themselves in the treatment countries compared to the firms in the control countries, which did not experience such a shock (statistically not significant). However, we do not form a strong hypothesis about the direction of the shock in the aggregate earnings series, as that is not the purpose of this study.

<sup>iv</sup>Using similar theoretical logic, experience, and expertise from various kinds of board diversity, including but not limited to gender, is also *fungible*. It means that the board need not appoint women or other markers of a diverse board through the board insider channel to receive information processing advantages that come with diversity (Pirson & Turnbull, 2011).

<sup>v</sup>Coles et al. (2008) show that R&D-intensive firms, which require more advice owing to the firm's complexity, appoint a higher proportion of insiders within their boards.

<sup>vi</sup>We deleted all financial (6,000–6,999) and utility sector (4,900–4,950) firms from our sample after identifying them using the two-digit SIC codes matched with Fama & French's (1997) industry classifiers (FF48 Industry).

<sup>vii</sup>The time-series length of our panel dataset is 14 years. We assume that relative purchasing power parity holds during this period (Taylor, 2002). We used the yearly-average Home/US\$ currency rates to convert local currencies into US\$ equivalents. The historic exchange-rate data is also from the World Bank database.

<sup>viii</sup>Zivot and Andrews' (1992) test draws on the unit-root literature whose basis was laid by Nelson and Plosser (1982) and Perron (1989). Zivot and Andrews' (1992) study also includes an empirical application of their test with various macroeconomic series. They have real and nominal Gross National Product (GNP), Employment, Industrial Production, etcetera, using original US data from the Nelson and Plosser (1982) paper. See Hansen (2001) for a survey of the literature.

<sup>ix</sup>Given that board configuration decision tends to persist over the years (Hermalin & Weisbach, 1998), even a temporary AES could trigger board configuration realignments. We do not distinguish between a temporary or a permanent shock to the aggregate earnings series for simplicity.

<sup>x</sup>Studies, usually from the US, do not use any such treatment to identify the recent global financial crisis's timeline because of the broad consensus about its origins and timings (Adams, 2012; Carey et al., 2012). However, in cross-country data, sorting countries into treatment and control samples based on which ones experienced significant macro shock without such a treatment would require considerable value-judgment. We avoid such arbitrary selection by employing the Zivot–Andrews test (1992).

<sup>xi</sup>It helps address the concerns expressed about the “endogenous” selection of the treatment sample resulting in questions raised about the DID-type models' econometric validity (Bertrand et al., 2004).

<sup>xii</sup>During the estimation process, we mean-centered all firm-year and country-year variables at their respective levels (Hofmann & Gavin, 1998).

<sup>xiii</sup>As discussed in the *Supporting Information* (available from the authors), for robustness, we also create a separate set of aggregate earnings series by averaging the operating earnings of an extended sample, which includes financial and utility sector firms. Our structural break results remained mostly consistent. Adopting a conservative approach for our main tests, we use the industrial sector break years to match our sample closely.

<sup>xiv</sup>We confined the annual aggregate earnings series to match the BoardEx's timeline. Elongating the timeline deeper into the 1990s would potentially include the Dot-Com Bubble, also originating in the US, and its cascading effects in other countries. The present Zivot–Andrews test is ill-equipped to track two structural breaks in the time-series and would, therefore, necessitate other tests. Also, corporate board data is unavailable from BoardEx to match a longer timeline. Our timeline matches the conventionally known sub-prime mortgage-induced global financial crisis originating in the US and is accepted by standard financial economics research (Adams, 2012; Carey et al., 2012).

<sup>xv</sup>There is little doubt that US experienced a financial crisis starting September 2008 when Lehman Brothers filed for Chapter 11 under US bankruptcy protection laws. However, we adopt a conservative approach based on the cash-heavy aggregate earnings series. Our Zivot–Andrews test captures the break date for the US in the year 2010. This timing is reasonable given that most emerging and advanced countries practice accruals accounting (Leuz et al., 2003). It allows firms to book income in advance, which is likely to materialize to a reasonable degree of confidence. In this way, the AES's full impact is likely to affect the US firms with a lag. The Zivot–Andrews test captured it in 2010. Kalemli-Ozcan et al. (2016) have suggested that Greece, Ireland, Spain, Portugal, and Italy have experienced a “sovereign debt” crisis (p. 1) during the same period. Our Zivot–Andrews test captures break dates for Ireland (2008), Portugal (2008) and Spain (2008), if the statistical significance used to reject the null is weaker, at 10% (in the reported results, Spain is part of the control sample). For Greece, we notice that the aggregate earnings series declined monotonically from a high of 16 percent in 2004 to a low of 1.8% in 2013. Therefore, their aggregate earnings suffered a systematic yet gradual decline eliminating the potential of a sudden shock. Italian aggregate earnings were volatile throughout the time-period with steep and frequent ups-and-downs, thereby making it difficult to pinpoint an exact timeline of a shock as reflected in the non-significant result emerging from the Zivot–Andrews test. In our tests, we treat both Greece and Italy as control sample countries.

<sup>xvi</sup>Of the nine countries, only two—Belgium and Ireland—were captured by the Zivot–Andrews test to have a structural break in 2004/2005. In 2009 too, these two countries suffered a significant decline in the mean. It matches our timeline from the rest of the sample countries. Therefore, we manually shifted their break dates to 2009. Our results remained unaffected from these minor subjective interventions.

<sup>xvii</sup>A critical research design success of our method is that we could weaken the institutional homogeneity in the *AES Treatment* and *Control* subsamples, as countries from both legal-origins, common-law, and code-law, were represented in each (La Porta et al., 1998). It increases institutional variations in both sub-samples and reduces the risk of institutional homogeneity.

<sup>xviii</sup>Firms in almost all countries were affected by the financial crisis 2008–2010. Using Zivot–Andrews AES timings, our objective is not to identify all affected countries. Our objective is to separate those countries that were significantly affected from those that were not as significantly affected. Here the statistical test proposed by Zivot–Andrews contributes to identifying the *significantly*-affected from the *not-so-significantly*-affected countries through a unit-root test. We, therefore, cannot rule out some misidentification of countries in either treatment or control samples. Nevertheless, this method is superior to identifying firms into treatment/control samples based on a priori information



about the crisis-affected countries without any appropriate econometric treatment.

<sup>xix</sup>Masulis & Mobbs (2011) find that *Self-focused Insiders* hold about 10% of US directorships.

<sup>xx</sup>These figures are understated as the sample average is measured by counting independent directors as well.

<sup>xxi</sup>Following Fauver et al. (2017), we calculate the coefficients' economic magnitude as follows:  $3.34\% = 0.012/0.359$ , where 0.012 is the coefficient loading on *AES Treatment x Post* in Model 4 of Table 3. Whereas 0.359 is the mean proportion of *Board Insiders*, as reported in Table 2, Panel A. Here onwards, we use the same method to calculate the economic magnitudes.

<sup>xxii</sup>To rule out alternative explanations such as whether R&D-intensive firms drive our results, we interact the *AES Treatment x Post* with the proportion of *R&D to Total Assets* (instead of *Financial Loss*) and re-estimate Model 4 as reported in Table 3. In this model, the interaction *Treatment x Post x R&D* does not load statistically significantly. Nevertheless, our primary interaction – *AES Treatment x Post* – remains positive and statistically significant at conventional confidence levels ( $p < 0.05$ ). This robustness check indicates that unlike Coles et al. (2008), R&D-intensive firms do not drive our primary results.

<sup>xxiii</sup>To ensure that our results are not driven by declining board sizes, as a robustness check, we use the natural log of the number of *Self-focused Insiders* and *Firm-focused Insiders*, respectively, per firm-year as alternative dependent variables. All our results are consistent. These results are untabulated.

## REFERENCES

- Acharya, V.V., Myers, S.C. & Rajan, R.G. (2011) The internal governance of firms. *The Journal of Finance*, 66(3), 689–720. <https://doi.org/10.1111/j.1540-6261.2011.01649.x>
- Adams, R.B. (2012) Governance and the Financial Crisis. *International Review of Finance*, 12(1), 7–38. <https://doi.org/10.1111/j.1468-2443.2011.01147.x>
- Adams, R.B. & Ferreira, D. (2007) A theory of friendly boards. *The Journal of Finance*, 62(1), 217–250. <https://doi.org/10.1111/j.1540-6261.2007.01206.x>
- Ahern, K.R. & Dittmar, A.K. (2012) The changing of the boards: The impact on firm valuation of mandated female board representation. *The Quarterly Journal of Economics*, 127(1), 137–197. <https://doi.org/10.1093/qje/qjr049>
- Athey, S. & Imbens, G.W. (2021) Design-based analysis in difference-in-differences settings with staggered adoption. *Journal of Econometrics*. <https://doi.org/10.1016/j.jeconom.2020.10.012>
- Ayudhya, U.C.N., Prouska, R. & Beauregard, T.A. (2019) The impact of global economic crisis and austerity on quality of working life and work-life balance: A capabilities perspective. *European Management Review*, 16(4), 847–862. <https://doi.org/10.1111/emre.12128>
- Baysinger, B. & Hoskisson, R.E. (1990) The composition of boards of directors and strategic control: Effects on corporate strategy. *Academy of Management Review*, 15(1), 72–87. <https://doi.org/10.5465/amr.1990.4308231>
- Bebchuk, L.A. & Fried, J.M. (2005) Pay without performance: Overview of the issues. *Journal of Applied Corporate Finance*, 17(4), 8–23. <https://doi.org/10.1111/j.1745-6622.2005.00056.x>
- Bertrand, M., Duflo, E. & Mullainathan, S. (2004) How much should we trust differences-in-differences estimates? *The Quarterly Journal of Economics*, 119(1), 249–275. <https://doi.org/10.1162/003355304772839588>
- Bhagat, S. & Black, B. (2001) The non-correlation between board independence and long-term firm performance. *The Journal of Corporation Law*, 27, 231.
- Boivie, S., Bednar, M.K., Aguilera, R.V. & Andrus, J.L. (2016) Are boards designed to fail? The implausibility of effective board monitoring. *Academy of Management Annals*, 10(1), 319–407. <https://doi.org/10.5465/19416520.2016.1120957>
- Camerer, C. & Vepsäläinen, A. (1988) The economic efficiency of corporate culture. *Strategic Management Journal*, 9(S1), 115–126. <https://doi.org/10.1002/smj.4250090712>
- Card, D. & Krueger, A.B. (1994) Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania. *American Economic Review*, 84(4), 772–793.
- Carey, M., Kashyap, A.K., Rajan, R.G. & Stulz, R.M. (2012) Market institutions, financial market risks, and the financial crisis. *Journal of Financial Economics*, 104(3), 421–424. <https://doi.org/10.1016/j.jfineco.2012.02.003>
- Choi, J.J., Park, S.W. & Yoo, S.S. (2007) The value of outside directors: Evidence from corporate governance reform in Korea. *Journal of Financial and Quantitative Analysis*, 42(4), 941–962. <https://doi.org/10.1017/S0022109000003458>
- Coles, J.L., Daniel, N.D. & Naveen, L. (2008) Boards: Does one size fit all? *Journal of Financial Economics*, 87(2), 329–356. <https://doi.org/10.1016/j.jfineco.2006.08.008>
- Coles, J.L., Daniel, N.D. & Naveen, L. (2014) Co-opted boards. *The Review of Financial Studies*, 27(6), 1751–1796. <https://doi.org/10.1093/rfs/hhu011>
- Denis, D.K. & McConnell, J.J. (2003) International corporate governance. *Journal of Financial and Quantitative Analysis*, 38(1), 1–36. <https://doi.org/10.2307/4126762>
- Desender, K.A., Aguilera, R.V., Crespi, R. & García-Cestona, M. (2013) When does ownership matter? Board characteristics and behavior. *Strategic Management Journal*, 34(7), 823–842. <https://doi.org/10.1002/smj.2046>
- Duchin, R., Matsusaka, J.G. & Ozbas, O. (2010) When are outside directors effective? *Journal of Financial Economics*, 96(2), 195–214. <https://doi.org/10.1016/j.jfineco.2009.12.004>
- Dugger, W.M. (1980) Corporate bureaucracy: the incidence of the bureaucratic process. *Journal of Economic Issues*, 14(2), 399–409. <https://doi.org/10.1080/00213624.1980.11503752>
- Fama, E.F. & French, K.R. (1997) Industry costs of equity. *Journal of Financial Economics*, 43(2), 153–193. [https://doi.org/10.1016/S0304-405X\(96\)00896-3](https://doi.org/10.1016/S0304-405X(96)00896-3)
- Fama, E.F. & Jensen, M.C. (1983) Separation of ownership and control. *Journal of Law and Economics*, 26(2), 301–325. <https://doi.org/10.1086/467037>
- Fang, R., Duffy, M.K. & Shaw, J.D. (2011) The organizational socialization process: Review and development of a social capital model. *Journal of Management*, 37(1), 127–152. <https://doi.org/10.1177/0149206310384630>
- Fauver, L., Hung, M., Li, X. & Taboada, A.G. (2017) Board reforms and firm value: Worldwide evidence. *Journal of Financial Economics*, 125(1), 120–142. <https://doi.org/10.1016/j.jfineco.2017.04.010>
- Feinberg, J. (1968) Collective responsibility. *The Journal of Philosophy*, 65(21), 674–688. <https://doi.org/10.2307/2024543>
- Ferreira, D. & Kirchmaier, T. (2013) Corporate boards in Europe: Size, independence, and gender diversity. In: Belcredi, M. & Ferrarini, G. (Eds.) *Boards and shareholders in European listed companies: Facts, context and post-crisis reforms*. Cambridge: Cambridge University Press, pp. 191–224. [10.1017/CBO9781139629126.004](https://doi.org/10.1017/CBO9781139629126.004)
- Fich, E.M. & Shivdasani, A. (2006) Are busy boards effective monitors? *The Journal of Finance*, 61(2), 689–724. <https://doi.org/10.1111/j.1540-6261.2006.00852.x>
- Field, L., Lowry, M. & Mkrtchyan, A. (2013) Are busy boards detrimental? *Journal of Financial Economics*, 109(1), 63–82. <https://doi.org/10.1016/j.jfineco.2013.02.004>
- Filatotchev, I. & Nakajima, C. (2010) Internal and external corporate governance: An interface between an organization and its environment. *British Journal of Management*, 21(3), 591–606. <https://doi.org/10.1111/j.1467-8551.2010.00712.x>

- Granado-Peiró, N. & López-Gracia, J. (2017) Corporate governance and capital structure: A Spanish study. *European Management Review*, 14(1), 33–45. <https://doi.org/10.1111/emre.12088>
- Grant, A.M. & Ashford, S.J. (2008) The dynamics of proactivity at work. *Research in Organizational Behavior*, 28, 3–34. <https://doi.org/10.1016/j.riob.2008.04.002>
- Guillén, M.F. & Capron, L. (2016) State capacity, minority shareholder protections, and stock market development. *Administrative Science Quarterly*, 61(1), 125–160. <https://doi.org/10.1177/0001839215601459>
- Guner, A.B., Malmendier, U. & Tate, G. (2008) Financial expertise of directors. *Journal of Financial Economics*, 88(2), 323–354. <https://doi.org/10.1016/j.jfineco.2007.05.009>
- Guo, S. & Fraser, M.W. (2015) *Propensity score analysis*. Thousand Oaks, CA: Sage Publications.
- Hansen, B.E. (2001) The new econometrics of structural change: Dating breaks in US labor productivity. *The Journal of Economic Perspectives*, 15(4), 117–128. <https://doi.org/10.1257/jep.15.4.117>
- Harris, M. & Raviv, A. (2008) A theory of board control and size. *Review of Financial Studies*, 21(4), 1797–1832. <https://doi.org/10.1093/rfs/hhl030>
- Haynes, K.T. & Hillman, A. (2010) The effect of board capital and CEO power on strategic change. *Strategic Management Journal*, 31(11), 1145–1163. <https://doi.org/10.1002/smj.859>
- Healy, P.M. & Wahlen, J.M. (1999) A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, 13(4), 365–383. <https://doi.org/10.2308/acch.1999.13.4.365>
- Hermalin, B.E. & Weisbach, M.S. (1998) Endogenously chosen boards of directors and their monitoring of the CEO. *American Economic Review*, 88(1), 96–118.
- Hofmann, D.A. & Gavin, M.B. (1998) Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management*, 24(5), 623–641. <https://doi.org/10.1177/014920639802400504>
- Jensen, M.C. & Meckling, W.H. (1976) Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Johnson, S., Boone, P., Breach, A. & Friedman, E. (2000) Corporate governance in the Asian financial crisis. *Journal of Financial Economics*, 58(1–2), 141–186. [https://doi.org/10.1016/S0304-405X\(00\)00069-6](https://doi.org/10.1016/S0304-405X(00)00069-6)
- Kalemli-Özcan, Ş., Reinhart, C. & Rogoff, K. (2016) Sovereign debt and financial crises: theory and historical evidence. *Journal of the European Economic Association*, 14(1), 1–6. <https://doi.org/10.1111/jeea.12167>
- Kammeyer-Mueller, J.D. & Wanberg, C.R. (2003) Unwrapping the organizational entry process: Disentangling multiple antecedents and their pathways to adjustment. *Journal of Applied Psychology*, 88(5), 779–794. <https://doi.org/10.1037/0021-9010.88.5.779>
- Kemper, A. & Martin, R.L. (2010) After the fall: The global financial crisis as a test of corporate social responsibility theories. *European Management Review*, 7(4), 229–239. <https://doi.org/10.1057/emr.2010.18>
- Knyazeva, A., Knyazeva, D. & Masulis, R.W.M. (2013) The supply of corporate directors and board independence. *The Review of Financial Studies*, 26(6), 1561–1605. <https://doi.org/10.1093/rfs/hht020>
- Konchitchki, Y. & Patatoukas, P.N. (2014) Accounting earnings and gross domestic product. *Journal of Accounting and Economics*, 57(1), 76–88. <https://doi.org/10.1016/j.jacc.2013.10.001>
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R.W. (1998) Law and finance. *Journal of Political Economy*, 106(6), 1113–1155. <https://doi.org/10.1086/250042>
- Leuz, C., Nanda, D. & Wysocki, P.D. (2003) Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, 69(3), 505–527. [https://doi.org/10.1016/S0304-405X\(03\)00121-1](https://doi.org/10.1016/S0304-405X(03)00121-1)
- Mace, M.L.G. (1971) *Directors: Myth and reality*. Boston, MA: Harvard University Press.
- Mao, H.-Y., Hsieh, A.-T. & Chen, C.-Y. (2012) The relationship between workplace friendship and perceived job significance. *Journal of Management & Organization*, 18(2), 247–262. <https://doi.org/10.5172/jmo.2012.18.2.247>
- Masulis, R.W. & Mobbs, S. (2011) Are all inside directors the same? Evidence from the external directorship market. *The Journal of Finance*, 66(3), 823–872. <https://doi.org/10.1111/j.1540-6261.2011.01653.x>
- Nahapiet, J. & Ghoshal, S. (1998) Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242–266. <https://doi.org/10.5465/amr.1998.533225>
- Nelson, C.R. & Plosser, C.R. (1982) Trends and random walks in macroeconomic time series: some evidence and implications. *Journal of Monetary Economics*, 10(2), 139–162. [https://doi.org/10.1016/0304-3932\(82\)90012-5](https://doi.org/10.1016/0304-3932(82)90012-5)
- Nguyen, B.D. & Nielsen, K.M. (2010) The value of independent directors: Evidence from sudden deaths. *Journal of Financial Economics*, 98(3), 550–567. <https://doi.org/10.1016/j.jfineco.2010.07.004>
- Ocasio, W. (1999) Institutionalized action and corporate governance: The reliance on rules of CEO succession. *Administrative Science Quarterly*, 44(2), 384–416. <https://doi.org/10.2307/2667000>
- Ostroff, C. & Kozlowski, S.W. (1992) Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology*, 45(4), 849–874.
- Paternoster, R., Brame, R., Mazerolle, P. & Piquero, A. (1998) Using the correct statistical test for the equality of regression coefficients. *Criminology*, 36(4), 859–866. <https://doi.org/10.1111/j.1745-9125.1998.tb01268.x>
- Perron, P. (1989) The great crash, the oil price shock, and the unit root hypothesis. *Econometrica: Journal of the Econometric Society*, 57(6), 1361–1401. <https://doi.org/10.2307/1913712>
- Pfeffer, J. & Salancik, G.R. (1978) *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.
- Pirson, M. & Turnbull, S. (2011) Corporate governance, risk management, and the financial crisis: An information processing view. *Corporate Governance: An International Review*, 19(5), 459–470. <https://doi.org/10.1111/j.1467-8683.2011.00860.x>
- Raheja, C.G. (2005) Determinants of board size and composition: A theory of corporate boards. *Journal of Financial and Quantitative Analysis*, 40(2), 283–306. <https://doi.org/10.1017/S0022109000002313>
- Sauerwald, S., Lin, Z. & Peng, M.W. (2016) Board social capital and excess CEO returns. *Strategic Management Journal*, 37(3), 498–520. <https://doi.org/10.1002/smj.2339>
- Seibert, S.E., Crant, M. & Kraimer, M.L. (1999) Proactive personality and career success. *Journal of Applied Psychology*, 84(3), 416–427. <https://doi.org/10.1037/0021-9010.84.3.416>
- Shivakumar, L. & Urcan, O. (2017) Why does aggregate earnings growth reflect information about future inflation? *The Accounting Review*, 92(6), 247–276. <https://doi.org/10.2308/accr-51714>
- Zorn, M.L., Shropshire, C., Martin, J.A., Combs, J.G. & Ketchen, D. J., Jr. (2017) Home alone: The effects of lone-insider boards on CEO pay, financial misconduct, and firm performance. *Strategic Management Journal*, 38(13), 2623–2646.
- Spinelli, A. & Pellino, G. (2020) COVID-19 Pandemic: Perspectives on an unfolding crisis. *The British Journal of Surgery*, 107(7), 785–787.
- Taylor, A.M. (2002) A century of purchasing-power parity. *The Review of Economics and Statistics*, 84(1), 139–150. <https://doi.org/10.1162/003465302317331973>
- Van Maanen, J.E. & Schein, E.H. (1979) Toward a theory of organizational socialization. *Research in Organizational Behavior*, 1, 209–264.

- Wintoki, M.B., Linck, J.S. & Netter, J.M. (2012) Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, 105(3), 581–606. <https://doi.org/10.1016/j.jfineco.2012.03.005>
- Zivot, E. & Andrews, D.W.K. (1992) Further evidence on the great crash, the oil-price shock, and the unit-root hypothesis. *Journal of Business & Economic Statistics*, 10(3), 251–270.

**How to cite this article:** Mukherjee, S. & Bonestroo, H.J.M. (2021) Why corporate board insiders *still* matter: Evidence using aggregate earnings shocks. *European Management Review*, 1–21. <https://doi.org/10.1111/emre.12473>

## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

## APPENDIX A

**TABLE A1** Variable description

Variables	Description	Source
Panel A: Firm-level dependent variables		
Board insiders	Total number of executive directors per Board Size (inverse of Board Independence)	BoardEx
Self-focused insiders	Total number of outside affiliated (listed board > 1) non-CEO executive directors per Board Size	BoardEx
Firm-focused insiders	Total number of (outside) unaffiliated non-CEO executive directors per Board Size	BoardEx
Panel B: Firm-level explanatory variables		
AES treatment	Dummy coded 1 if a country experienced an AES using the Zivot-Andrews t-test method; 0 otherwise	Table 1/This study
Post (2009)	Dummy coded 1 for all country-year observations if the year is 2009 or later; 0 otherwise	This study
AES treatment x post (2009)	Dummy coded 1 starting the year a country experienced an AES as reported in Table 1; 0 otherwise	Table 1/This study
Financial loss	Dummy coded 1 if Financial Return [natural logarithm of Market Capitalization, i.e., number of shares outstanding multiplied by the year-ending share price (for the U.S.; for non-U.S. firms, it is the fiscal year-end share price), in the year t minus the natural logarithm of Market Capitalization in the year t-1] is less than zero for two consecutive years; 0 otherwise	Worldscope
Board size	Total number of directors	BoardEx
Board gender diversity	Total number of women directors per Board Size	BoardEx
Board tenure (years)	Average years within the board of the directors per Board Size	BoardEx

(Continues)

TABLE A1 (Continued)

Variables	Description	Source
Board's outside affiliations	The average number of listed boards on which directors currently serve per Board Size	BoardEx
Dummy: CEO duality	Dummy coded 1 if the CEO is also the Chair; 0 otherwise	BoardEx
Dummy: woman CEO	Dummy coded 1 if the CEO is a woman; 0 otherwise	BoardEx
Dummy: CEO turnover	Dummy coded 1 if the firm-year observation has a new CEO; 0 otherwise	BoardEx
Tobin's Q	Total Assets minus Book Value of Equity plus the market value of Equity divided by book value of Total Assets	Worldscope
Operating ROA	Operating Income per Total Assets	Worldscope
Total assets (\$B)	Total Assets	Worldscope
Total liabilities	Total Liabilities per Total Assets	Worldscope
Interest rate	Interest Expense on Debt per Total Liabilities	Worldscope
CAPX	Capital Expenditure per Total Assets	Worldscope
R&D	Research and Development Expenditure per Total Assets	Worldscope
Cash holdings	Cash Holdings per Total Assets	Worldscope
Ownership	Percentage of shares held by insiders, which includes Cross Holdings, Corporations, Holding Companies, Government, Employees, and other Individuals	Worldscope
Dummy: Cross-listed	Dummy coded 1 if a firm is listed in more than one stock exchange; 0 otherwise	Worldscope
Business segments	Total number of Business Segments a firm operates within (identified using SIC codes)	Worldscope
Geographic spread	Total number of geographies within which a firm has a physical presence (identified using Total Assets across geographies)	Worldscope
Dummy: IFRS accounting standard	Dummy coded 1 for firms that use IFRS as their Financial Reporting Standard; 0 otherwise	Worldscope
Dummy: Big 4 auditors	Dummy coded 1 for firms that use Big 4 audit firms as their external auditors; 0 otherwise	Worldscope
Dual boards	Dummy coded 1 if a country allows or mandates a two-tier board structure; 0 otherwise. Dual Board country classifications are available from Ferreira & Kirchmaier (2013) (Table 4.4.) and Denis & McConnell (2003) (for Finland).	Hand-collected
GDP (current \$U.S.)	Gross Domestic Product per Capita (expressed in constant or real terms)	World Bank
FDI (current \$U.S.)	Foreign Direct Investment Net Inflow per Capita (expressed in constant or real terms)	World Bank

(Continues)

TABLE A1 (Continued)

Variables	Description	Source
Guillen-Capron SRI	Guillen and Capron Shareholders Rights Index	Guillen-Capron (ASQ, 2016)
INDP_Board_Market	Number of first-time Independent Directors (no prior board experience within the present firm or any other firm) in a country-year minus number of directors who drop-off (never reappears in any future year in any of the firms, domestic or abroad) the board labor market in a country-year whole divided by total number board seats in that country-year	BoardEx
Dummy: Gender quota	Dummy coded 1 for all years starting the year a Gender Quota, irrespective of its compliance date or penalty attached, was passed for non-state-owned firms; 0 otherwise	Hand-collected
Panel C: Director-level dependent variables		
Dummy: BI firm experience	Dummy coded 1 if the board insider has more firm experience than board experience in the same firm; 0 otherwise (non-executive directors are coded 0)	BoardEx
Dummy: BI ind. exp. depth	The number of Fama & French 48 Industries in which the board insider has previously served as a corporate director in any capacity, per 48 (non-executive directors are coded 0)	BoardEx
Dummy: BI fin. expertise	Dummy coded 1 if the board insider has any of the following job role descriptions: CFO; Finance Director; Financial Manager; Accounting Speciality; Investment Director; Controller); 0 otherwise (non-executive directors are coded 0)	BoardEx
Panel D: Other director-level controls		
Dummy: Supervisory director	Dummy coded 1 if the director serves on the supervisory board of the firm. Directors serve in the supervisory board only in countries that allow or mandates Dual Board structures; 0 otherwise	BoardEx
Dummy: Woman director	Dummy coded 1 if the director is a woman; 0 otherwise	BoardEx
Firm experience	The number of years the director has served in the same firm in any capacity	BoardEx
Board experience	The number of years the director has served on the corporate board of the firm in any capacity	BoardEx
Outside affiliation	Number of listed boards on which the director currently serves	BoardEx
Age	Age of the director	BoardEx

Note: This table describes the methods adopted to calculate all the firm-, director- and country-level variables.