THE EFFECT OF THE BOARD DIVERSITY ON FIRM PERFORMANCE: AN EMPIRICAL STUDY ON THE UK

Rehab EmadEldeen *, Ahmed F. Elbayoumi **, Mohamed A. K. Basuony ***, Ehab K. A. Mohamed ****

* The American University in Cairo, Cairo, Egypt; The Egyptian Chinese University, Cairo, Egypt
** Corresponding author, The American University in Cairo, Cairo, Egypt; Cairo University, Cairo, Egypt
*** The American University in Cairo, Cairo, Egypt
**** The German University in Cairo, Cairo, Egypt

Contact details: Department of Accounting, School of Business, The American University in Cairo, AUC Avenue, P.O. Box 74, New Cairo 11835, Egypt

How to cite this paper: EmadEldeen, R., Elbayoumi, A. F., Basuony, M. A. K., & Mohamed, E. K. A. (2021). The effect of the board diversity on firm performance: An empirical study on the UK [Special issue]. Corporate Ownership & Control, 18(3), 337–347. http://doi.org/10.22495/occv18i3siart8

Abstract

This study aims at filling existing research by examining the effect of board composition specially board diversity on firm performance using cross-sectional data from London Stock Exchange (FTSE 350) of non-financial companies with a total observations 3961 companies for the years 2000–2016. To the best of our knowledge, the contribution of this paper is to examine the effect of board diversity (age, gender, education, and nationality) of FTSE 100 and FTSE 250 on firm performance. Our results indicate that age diversity has a negative effect on firm performance, which means that young board members enhance and increase firm performance. Furthermore, education diversity has a negative effect on firm performance. On the other hand, gender diversity has positive effect on firm performance, so if companies increase the number of females in the board of directors, firm performance will increase. Ultimately, our result reveals that nationality diversity has a positive effect on firm performance.

Keywords: Board Diversity, Firm Performance, Board Age, Board Education, Female on Board, Board Nationality

Authors’ individual contribution: Conceptualization — E.K.A.M.; Methodology — R.E., A.F.E., and M.A.K.B.; Software — A.F.E. and M.A.K.B.; Validation — R.E., A.F.E., M.A.K.B., and E.K.A.M.; Data Curation — R.E.; Writing — Original Draft — R.E., A.F.E., and M.A.K.B.; Writing — Review & Editing - E.K.A.M.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Good corporate governance practices can help management better monitor and control the use of firm resources. Such efficient practices can motivate management to reveal all the material and relevant information to investors. In that case, investors will have a positive view of firm performance and, with the anticipation of more dividends, will expect higher potential cash flows. This presumption can be positively reflected in the firm’s share price (Aggarwal, Schloetzer, & Williamson, 2019; Laiili, Dijazuli, & Indrawati, 2019). Good corporate governance practices may therefore result in more disclosure, better firm performance and higher share price. In contrast, Ammann, Oesch, and Schmid (2011) argued that, in some cases, the cost of applying good corporate governance practices may be high and may have a negative impact on firm profitability.

The board of directors performs a very important role in corporate governance because of its vital duty to monitor top management and to ensure the reliability of financial reporting (Soliman & Abd Elsalam, 2012). Resource dependence theory
and social categorization theory predict that board diversity has a significant impact on firm performance.

Resource dependence theory claims that the efficiency of an organization is affected by its capability to maintain and manage critical resources obtained from the external environment (Ruigrok, Peck, & Tacheva, 2007). Along with the monitoring and controlling roles, a diverse board of directors may assist the firm in obtaining critical resources such as counsel and networking (Hillman & Dalziel, 2003). Therefore, it is argued that greater board diversity can create interactions and shared ideas between board members that can help to better understand the firm’s surrounding environment (Hillman, Cannella, & Paetzold, 2000; Nielsen & Huse, 2010). The knowledge and experience of board members along with the resources obtained from the external environment can be used to enhance firm performance by improving the decision-making quality (Hsu, Lai, & Yen, 2019).

Social categorization theory, on the other hand, predicts that board diversity can lead to less teamworking consistency, leading to less efficient decision-making processes (Harjoto, Laksmana, & Yang, 2019). This theory assumes that people with similar characteristics form in-group, while those with dissimilarities are in out-group category (Velrop, Hermes, Postma, & de Haan, 2015). Thus, based on this theory, it is expected that board members may classify themselves into social categories according to gender, nationality, education, or age. In this case, the theory predicts that negative attitudes towards divergent individuals and infrequent contact between members of a diverse board may have a negative effect on the board’s performance (Harjoto et al., 2019).

Kagzi and Guha (2018) have classified board diversity into two categories. Structural diversity is one, and demographic diversity is the second. Structural diversity includes characteristics such as board size, role duality of the CEO, and independence of the board. Board demographic diversity, on the other hand, includes characteristics such as gender, nationality, educational, and age diversity of the board. A firm with a diverse board of directors demonstrates its commitment to a diverse workforce, which in turn attracts human capital from varied backgrounds (Spence, 1973).

Assessing the effect of corporate governance practices on firm performance has been addressed by many previous studies. Various proxies of corporate governance and firm performance have been utilized by these studies. Tobin’s Q (Adams & Ferreira, 2009; Frijns, Dodd, & Cimerova, 2016), return on assets (ROA) (Adams & Ferreira, 2009; Adnan et al., 2016; Frijns et al., 2016; Kagzi & Guha, 2018; Rose, Munch-Madsen, & Funch, 2013), ROE (Adnan et al., 2016), and stock returns (Ntim, 2015) are commonly used as proxies for firm performance. Corporate governance’s most widely used proxies include CEO duality, board size, and board independence. Recently, demographic characteristics such as gender, nationality, education, and age, have emerged and have become very significant proxies for board diversity (Ararat, Black, & Yurtoglu, 2017; Schmidt & Fahlenbrach, 2017). The central question of our study is how board diversity influences various types of firm performance indicator, i.e., accounting based (ROA), and market based (Tobin’s Q)?

The remainder of the paper is organized as follows. Section 2 presents the literature review and hypotheses development, Section 3 presents the empirical methodology employed, including sample, data collection, and measurement of variables. The results of the empirical analysis are reported in Section 4, while Section 5 concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Theoretical background

According to upper echelons theory, having a diverse board increases the resources of the information available for the board, strengthens the board’s capacity to identify strategic opportunities, develop successful plans, tackle disputes, and improves the overall firm performance (Hsu et al., 2019). As a consequence of a women’s growing participation in business and society, several stakeholders support the role of female directors (Daily, Dalton, & Cannella, 2003; Hafsi & Turgut, 2013; Hillman, Shropshire, & Cannella, 2007).

It is believed that there is no substantial difference between men and women with respect to needs such as leadership, accomplishments, self-confidence, hostility, target orientation, determination, independence, non-conformity, independence, and a locus of control (Chaganti, 1986). Nonetheless, compared to male board members, female board directors exhibit distinct behavior. During board meetings, women usually listen more openly to the speakers enabling them to help the board in solving critical problems (Konrad, Kramer, & Erkt, 2008). They usually raise more governance issues during the board meeting, leading to enhanced control over senior management and more protection of shareholders rights (Hsu et al., 2019). Female board members are more likely to adopt conservative policies (Hsu et al., 2019; Jianakopoulos & Bernasek, 1998; Schmidt & Fahlenbrach, 2017). In addition, women on the boards usually enhance all types of disclosure (Ahmed, Monem, Delaney, & Ng, 2017). Females on board can change the attitude of all members of the board. Female directors can provide improved monitoring and consultancy services that can boost the organization’s image (Lückerath-Rovers & Bos, 2011). Female directors thus improve the board’s supervisory role and reduce agency cost, which contributes to the achievement of performance objectives (Adams & Flynn, 2005).

Critical mass theory hypothesizes that in order to constitute the necessary critical mass that can affect firm output, at least three women on boards are needed (Liu, Wei, & Xie, 2014). Moreover, Tsou and Yang (2019) found that increasing the proportion of highly educated female workers improves the efficiency of the firm. Solakoglu and Demir (2016) argue that the appointment of female directors contributes to greater innovation and creativity and is a successful corporate image enhancement strategy (Solakoglu & Demir, 2016). More gender diversity, on the other hand, could
increase the likelihood of disputes among board members (Hassan, Marimuthu, & Johl, 2015). Such conflicts can lead to more different opinions and time consuming, which can have a negative impact on the performance of the firm, especially if the firm competes in a market environment that needs prompt decisions (Smith, Smith, & Verner, 2006). Furthermore, board members who are associated with higher education and are well equipped with new technology, can operate effectively in an increasingly complicated, global, and fast moving business arena.

Another significant aspect of the board is diversity in the age of directors. Observable demographic characteristics such as age form the values and beliefs of individual directors, as suggested by upper echelons theory, which can be considered as good proxies for intrinsic cognitive abilities, values, and skills, which in turn have a major effect on decision-making and performance (Herrmann & Datta, 2005). If the board members are of the similar age group, the decision-making and the leadership styles might be biased to a precise age division in the market since the directors may have similar experiences (Abdullah & Ismail, 2013). Nevertheless, the board will benefit from hiring directors from different age groups to obtain information from directors who understand the importance and the need of the various stakeholders in their age group to enhance the firm’s performance (Akpan & Amran, 2014). Age diversity is advantageous when young directors use more new methods and have a higher capacity to process new ideas than old directors who may be more concerned with staying in power (Akpan & Amran, 2014; Cheng et al., 2010). On the other hand, old directors may have more common business knowledge and experience, and they are more sensitive to society at large and more willing to add to their welfare than young directors who are more sensitive to ethical and environmental issues (Hafsi & Turgut, 2013; Herrmann & Datta, 2005; Post, Rahman, & Rubow, 2011). Moreover, upper echelons literature argues that the young directors have a higher risk-taking tendency (Darmadi, 2011; Herrmann & Datta, 2005) compared to the old directors, who are more risk-averse and exhibiting a preference for greater career and financial security (Child, 1974). Therefore, it is recommended that the board should be a mirror for the society which is, in fact, diverse in its composition (Abdullah & Ismail, 2013).

2.2. Hypotheses development

2.2.1. Gender diversity

In research on board diversity, gender is a common variable examined (Hsu et al., 2019). The influence of gender diversity on firm performance has been analyzed in many studies (Adams & Ferreira, 2009; Conyon & He, 2017; Gull et al., 2018; Gyapong, Monem, & Hu, 2016; Lafuente & Vaillant, 2019; Mackey, Roth, Iddekinge, & McFarland, 2019; Marinova, Plantenga, & Remery, 2016; Salloum, Jabbour, & Mercier-Suissa, 2019; Shehata, Salhin, & El-Helaly, 2017). Past research, however, gives contradictory findings with regard to the association...
between firm performance and gender diversity on the board (Hsu et al., 2019).

Some studies indicate that there is a positive association between gender diversity and firm performance (Abdelzaher & Abdelzaher, 2019; Agyemang-Mintah & Schadewitz, 2019; Ali-Shaer & Zaman, 2016; Arun, Almahrog, & Arbi, 2015; Byron & Porter, 2016; Carter, Simkins & Simpson, 2003; Conyon & He, 2017; García-Meca, García-Sánchez, & Martínez-Ferrero, 2015; Gyapong et al., 2016; Kim & Starks, 2016; Lafuente & Vaillant, 2019; Liu et al., 2014; Low, Roberts, & Whiting, 2015; Reguería-Alvarado, de Fuentes, & Laffarga, 2017; Sabatier, 2015; Salloum et al., 2019).

A negative association between gender diversity and firm performance has been found in other studies. Adams and Ferreira (2009) found, for instance, that board gender diversity is associated with low Tobin’s Q and ROA. Similarly, a negative association between firm performance and the ratio of women on corporate boards was identified by Ahern and Dittmar (2012) using a sample of 248 Norwegian publicly traded firms. A third group of studies found no association between gender diversity and firm performance (Carter, D’Souza, Simkins, & Simpson, 2010; Dobbin & Jung, 2011; Mackey et al., 2019; Marinova et al., 2016; Peni & Vähämäa, 2010; Sila, Gonzalez, & Hagendorff, 2016; Sun, Liu, & Lan, 2011; Wang & Clift, 2009).

H1: There is a significant relationship between gender diversity and firm performance.

2.2.2. Board nationality

Mixed results on the relationship between the nationality of the board and firm performance have been provided. Some studies have indicated that the two variables are positively and significantly associated. Jalbert et al. (2007), for instance, investigated the degree to which CEOs’ national origin influenced firm performance. They found some evidence to indicate that CEOs born in Central and South America and CEOs born in Australia and New Zealand reported higher ROA than other CEOs. Similarly, Carter, D’Souza, Simkins, and Simpson (2007) found that ethnic diversity had a positive effect on firm performance in all Fortune 500 companies over the period 1998–2002. Also, Choi, Park, and Yoo (2007) reported a positive effect on the financial performance of firms having international directors on their board. These results are supported by many studies in many countries like Malaysia (Marimuthu, 2008; Shukeri, Shin, & Shaari, 2012) and South Africa (Ntim, 2015). Miller and Triana (2009) reported a significant and positive effect of board racial diversity on both firm reputation and innovation. They also found that the association between board racial diversity and firm performance is mediated by reputation and innovation.

Some studies, on the other hand, have found that there is a negative association between board nationality diversity and firm performance. For example, Pitts and Jarry (2007) found that an increased percentage of international board members could have a negative effect on firm performance. That result was supported by Rosa et al. (2013) who used a sample of companies in Nordic countries (Denmark, Sweden, Finland, Norway and Germany). Several studies in various countries such as the UK (Frijns et al., 2016) and Malaysia (Adnan et al., 2016) have reported a significant negative association between cultural diversity and firm performance. García-Meca et al. (2015) found that, in countries with higher levels of investor protection and bank control, the negative impact of board nationality is predominantly strong. This negative impact contributes to moral hazard among international directors and reduces their incentives for monitoring.

However, some studies found that there is no significant relationship (Kipkirong Tarus & Aime, 2014).

H2: There is a significant relationship between nationality diversity and firm performance.

2.2.3 Board education

Some studies reported that education diversity is positively associated with firm performance (Haniffa & Cooke, 2002; Harjoto et al., 2019; Khanna, Jones, & Boivie, 2014; Wang et al., 2017). According to these studies, education diversity on the board of directors can stimulate discussions on the relevance of corporate strategies, enable the team to generate a better range of strategic alternatives, better assess the potential outcomes of each alternative, leading to more innovative solutions (Harjoto et al., 2019). Other studies, however, have found that education diversity has a negative impact on firm performance (Kagzi & Guha, 2018; Mahadeo et al., 2012; Ujunwa, 2012). The results of this stream of studies suggest that investors may consider education diversity on the board of directors as a source of conflict among board members. Therefore, it may negatively affect firm performance. This implies that shareholders negatively value company boards with more education diversity (Kagzi & Guha, 2018). On the other hand, several studies have shown that diversity in education has no impact on firm performance (Engelen, van den Berg, & van der Laan, 2012; Rose, 2007) or on firm valuation (Kim & Lim, 2010).

H3: There is a significant relationship between education diversity and firm performance.

2.2.4 Board age

Age diversity may have positive or negative effects on the firm’s performance. Age diversity may have a positive impact on the board’s skills, resources, knowledge, experience and relationships, which in turn may have a positive impact on firm performance. Age diversity may, however, be related to cognitive conflicts and inferior team unity, which in turn have a detrimental impact on firm performance.

Some studies show that age-diverse boards contribute to improve the financial performance of firms (Ali & French, 2019; Ararat et al., 2017; Kilduff, Angelmar, & Mehr, 2000; Kim & Lim, 2010; Mahadeo et al., 2012). Other studies found that age diversity has an unfavorable impact on firm social performance (Faley, 2007; Hafsi & Turgut, 2013; Kunze, Boehm, & Bruch, 2011, 2013; Talavera, Yin, & Zhang, 2018), profitability (Abdullah & Ismail, 2013; Ali, Ng, & kulik, 2014; Talavera et al., 2018), and strategic reforms (Kipkirong Tarus & Aime, 2014).
On the other hand, other found no significant association between age diversity and firm performance (Randøy, Thomsen, & Oxelheim, 2006). 

**H4:** There is a significant relationship between age diversity and firm performance.

### 3. METHODOLOGY

#### 3.1. Sample and data collection

The data of this study was collected from companies listed in the London Stock Exchange (FTSE 350). The total sample of FTSE 350 the nonfinancial companies is 39150 observations for 233 companies from the period 2000 to 2016. Furthermore, we selected the FTSE 100 and FTSE 250 with total number of observations 1292 and 2669 respectively as shown in Table 1.

### 3.2. Measurement of variables

Table 2 describes the definition of variables used in this study. Panel A epitomizes the dependent variables, which include two groups, ROA as a book-based performance and Tobin's Q as a market-based performance. Panel B represents the independent variables that include the board characteristics (board size, board independence, board age, board education and females in board) and firm specific characteristics, which are firm size and leverage.

#### 4. DATA ANALYSIS

#### 4.1. Descriptive statistics

Table 3 reports the descriptive statistics. The table reveals that the average age of the board members is 55.7 years old. The average number of education qualifications earned by all directors is 2, the average numbers of the female board members is 1 board member, and the average foreign board members is 1 board member.

### Table 1. Sample of the study

| No. of companies | No. of observations |
|------------------|---------------------|
| FTSE 100         | 76                  |
| FTSE 250         | 157                 |
| FTSE 350         | 233                 |

### Table 2. Definition of variables

| Variable name         | Code | Measurement                                      | Source                                  | Reference |
|-----------------------|------|--------------------------------------------------|-----------------------------------------|-----------|
| **Panel A: Dependent variables (Firm performance)** | | | | |
| Return on assets      | ROA  | Net income/Total assets                          |DataStream                               | Lutz, Hegazy, Mohamed, and Basuony (2020) |
| Tobin's Q             | Tobin's Q | (MV(CS) + BV(PS) + BV(LTD) + BV(INV) + BV(CL) – BV(CA))/BV(TA) |DataStream                               | Lutz et al. (2020) |
| **Panel B: Independent variables** | | | | |
| Board size            | BrdSize | Number of directors on the board                  | BoardEx                                | Basuony, Mohamed, and Samaha (2018); Carter et al. (2010); Kim and Starks (2016) |
| Board independence    | BrdInd  | % of No. of nonexecutive independent directors to total number of board directors | BoardEx                                | Kim and Starks (2016); Li and Chen (2018) |
| Age diversity         | AgeBrd  | Average age in years of all directors             | BoardEx                                | Kim and Starks (2016); Li and Chen (2018) |
| Education diversity   | EduBrd  | Average number of education qualifications earned by all directors | BoardEx                                | Xu, Zhang, and Chen (2018) |
| Gender diversity      | GenBrd  | Number of female directors on the board           | BoardEx                                | Carter et al. (2010); Li and Chen (2018) |
| National diversity    | NatBrd  | Proportion of all directors from different countries | BoardEx                                | Miller and Triana, (2009); Frijns et al. (2016) |
| **Firm specific characteristics** | | | | |
| Leverage              | Levig  | Total debt/Total assets * 100                    |DataStream                               | Li and Chen (2018); Lutz et al. (2020) |
| Firm size             | FSize   | Natural log of total assets                       |DataStream                               | Li and Chen (2018); Lutz et al. (2020) |

Notes: *Education diversity is calculated as the average number of education qualifications earned by all directors. This variable is measured based on the bachelor, master, professional qualification and PhD degrees obtained by the directors.*
Age diversity is more in FTSE 100 than in FTSE 250, as shown in Figure 1 in FTSE 100. Age diversity seems to be constant until 2009 then it began to increase until 2016. On the other hand, age diversity in FTSE 250 decreased in 2002, then it fluctuated until 2006, and then it had a stable increase until 2016. As shown in Figure 2, education diversity in FTSE 100 is more than in FTSE 250, and it seems to be constant for both FTSE 100 and FTSE 250. Gender diversity is more in FTSE 100 than in FTSE 250. As shown in Figure 3, in FTSE 100, the number of the females seems to be constant from 2000 until 2010, then there is extraordinary increase until 2016. On the other hand, in FTSE 250, the number of females decreases in 2002, then it seems to be constant, then there is extraordinary increase until 2016. Nationality diversity in FTSE 100 is more than in FTSE 250. As shown in Figure 4, the foreign board of directors in FTSE 100 is high in 2000, then it decreased in 2005, and it continued to decrease until 2016. On the other hand, in FTSE 250, the foreign board of directors seems to be constant from 2000 until 2016.

4.2. Hypotheses testing

Ordinary least squares (OLS) model is used in order to examine the effect of board diversity on firm performance on FTSE 100, FTSE 250, and FTSE 350 using leverage and firm size as control variables. This study used some different independent variables for firm performance (ROA and Tobin’s Q).

| OLS                     | OLS                     |
|-------------------------|-------------------------|
| **ROA (Model 1)**       | **Tobins’ Q (Model 2)** |
| **FTSE 100**            | **FTSE 250**            | **FTSE 100**       | **FTSE 250**       | **Tobins’ Q** | **FTSE 350**       |
| Cons.                   | 32.4904***              | 71.8814***            | 43.3858***         | 49.0089         | 5.2588***       | 13.1328***         |
| Leva                    | -0.0315**               | -0.0321*              | -0.0451***         | -0.0743***      | 0.0047          | -0.0129           |
| FSize                   | -2.0758***              | -4.3840***            | -2.6244***         | -2.5609***      | -0.4375***      | -0.8627***         |
| BrdSize                 | 0.0083                  | 0.1722                | 0.3309***          | 0.44103**       | -0.0098*        | 0.2624***          |
| BrdInd                  | 11.9081***              | 6.9910***             | 9.0132***          | 18.344***       | 0.6178          | 2.7179***          |
| AgeBrd                  | 0.04980                 | -0.1288               | -0.0869           | -0.3081*        | 0.0070          | -0.1169**          |
| EduBrd                  | -0.9211*                | -2.0397***            | -1.4451***         | -2.4066**       | 0.2188*         | -0.3851            |
| GenBrd                  | 0.0918                  | 1.9470***             | 1.1065***          | -0.3119         | 0.3470***       | -0.0087            |
| NatBrd                  | 0.2274                  | 0.4680**              | 0.4340***          | 0.4481          | 0.1689***       | 0.1500             |
| ROA                     | 0.1270**                | 0.1957***             | 0.1957***          | 0.1916**        | 0.1916**        |                   |
| F-value                 | 21.42                   | 31.42                 | 33.62              | 11.89           | 304.90          | 39.07              |
| Prob.                   | 0.000                   | 0.000                 | 0.000              | 0.000           | 0.000           | 0.000              |

Notes: *** Significant at 1% level, ** Significant at 5% level, and * Significant at 10% level.
Model 1 examines the effect of board diversity on ROA. The results reveal that leverage has a negative effect on ROA. Moreover, firm size has a negative effect on ROA, which means that small firms have higher firm performance than big firms. On the other hand, board size has a positive effect on ROA in the whole sample (FTSE 350). Thus, when the firm increases the number of board members, the firm performance will increase. Moreover, board independence has a positive effect on ROA, so when the firm increases the number of the non-executive board members, the firm performance will increase. In addition, education diversity has a negative effect on ROA. So, when the education diversity increases, firm performance will decrease. The result is consistent with Kagzi and Guha (2018), Mahadeo et al. (2012), and Ujunwa (2012). In contrast, gender diversity has a positive effect on ROA in FTSE 250. Consequently, when the firm increases the number of females in the board members, the firm performance will increase. The result is consistent with Abdelzaher and Abdelzaher (2019), Conyon and He (2017), and Lafuente and Vaillant (2019). However, gender diversity appears to be not significant in FTSE 100. In addition, nationality diversity has a positive effect on ROA in FTSE 250. Accordingly, when the firm increases the number of the foreign board members, the firm performance will improve. The result is consistent with Marimuthu (2008) and Shukeri et al. (2012).

However, nationality diversity appears to be insignificant in FTSE 100. On the other hand, age diversity has no significant effect on ROA.

Model 2 examines the effect of board diversity on Tobin’s Q. The results reveal that leverage has a negative effect on Tobin’s Q in FTSE 100, but it is not significant in FTSE 250. Moreover, firm size has a negative effect on Tobin’s Q. In contrast, board size has a positive effect on Tobin’s Q in FTSE 100. However, it has a negative effect on firm performance of FTSE 250. Moreover, board independence has a positive effect on Tobin’s Q only in FTSE 100 but it has no significant effect in FTSE 250. Furthermore, age diversity has negative effect on FTSE 100. This result is consistent with many previous research (Faley, 2007; Hafsi & Turgut, 2013; Kunze et al., 2013). However, it is not significant in FTSE 250. In addition, education diversity has a negative effect on Tobin’s Q in FTSE 100. This result is consistent with many previous research (Kagzi & Guha, 2018; Ujunwa, 2012). Education diversity also has a positive effect in FTSE 250. This result is consistent with Haniffa and Cooke (2002) and Khanna et al. (2014). In contrast, gender and nationality diversity has a positive effect on Tobin’s Q in FTSE 250. However, they are not significant in FTSE 100. Last but not least, ROA has a positive effect on Tobin’s Q.

The fixed effect model is used in order to examine the effect of board diversity on firm performance on FTSE 100, FTSE 250, and FTSE 350 using leverage and firm size as control variables. This study uses different independent variables for firm performance (ROA and Tobin’s Q).

Model 1 examines the effect of board diversity on ROA. The results reveal that leverage has a negative effect on ROA. This means that when the percentage of the total debt to total asset increase, the financial performance will deteriorate because of the high debt. Moreover, firm size has a negative effect on ROA. Which means that small firms have high firm performance than big firms. In contrast, gender diversity has a positive effect on ROA. So, when the number of females increase in the firm, the financial performance will increase. All the other variables have no significant effect on ROA.

Model 2 examines the effect of board diversity on Tobin’s Q. The results reveal that firm size has a negative effect on Tobin’s Q. Moreover, in FTSE 100, board independence and age diversity have a positive effect on Tobin’s Q. This means that the high dependence on non-executive directors leads to upsurge financial performance. In addition, the high age diversity refers to combination between the old experience and tech experience and this will leads to high firm performance. In addition, education diversity has a negative effect on Tobin’s Q. So, high diversity in education may leads to jealousy and plotting on each other. However, it appears to be not significant in FTSE 250. On the other hand, in FTSE 250, gender diversity and nationality diversity have a positive effect on Tobin’s Q. Which means that high number of females and foreigners in the firm leads to high firm performance. However, it appears not significant in FTSE 250. Ultimately, ROA has a positive effect on Tobin’s Q.

Table 5. Fixed effect models

| Model 1 | ROA (Model 1) | Model 2 | Tobin’s Q (Model 2) |
|---------|---------------|---------|---------------------|
| Cons.   | 50.1399***    | 89.2182*** | 6.8146***           |
| Levg    | -0.5487***    | -0.0513  | -0.008              |
| FSize   | -3.0561***    | -7.0013***| -0.5262***          |
| BdSize  | 0.1712       | -0.0474  | -0.0766             |
| BdInd   | 3.0619        | 14.7734***| 0.6059              |
| AgeBrd  | 0.0969        | 0.4743*  | 0.0310              |
| EduBrd  | -0.7924       | -5.3893***| 0.0915              |
| GenBrd  | 0.3762*       | 0.5192   | 0.2429**            |
| NatBrd  | -0.1033      | -0.10821***| 0.1388***          |
| ROA     | -0.1053       | -0.1493**| 0.1481***          |
| F-value | 7.25          | 7.46     | 88.21               |
| Prob.   | 0.000         | 0.000    | 0.000               |

Notes: *** Significant at 1% level, ** Significant at 5% level, and * Significant at 10% level.
5. CONCLUSION

The results presented above may suggest some prevalent features with respect to board diversity and the UK firm performance. In line, with previous literature, we assume that the result supports the board of directors in a way to enhance firm performance. The main objective of this study is to show the impact of board diversity on firm performance. To fulfill this objective, we used data from the companies listed in the London Stock Exchange (FTSE 350). The total sample of FTSE 350 for the nonfinancial companies is 3961 observations for 233 companies from the period 2000 to 2016. Furthermore, we selected the FTSE 100 and FTSE 250 with total number of observations 1292 and 2669 respectively. The sample of this study is limited to only the non-financial companies and it measures the financial performance using only ROA and Tobins Q.

Our results indicate that age diversity has a negative effect on firm performance, which means that young board members enhance and increase firm performance. Furthermore, education diversity has a negative effect on firm performance. On the other hand, gender diversity has positive effect on the firm performance. So, if firms increase the number of females in the board of directors, their performance will improve. Ultimately, our results reveal that nationality diversity has a positive effect on firm performance. Future research might include the effect of the board diversity for both Executive and non-executive directors on the firm performance. Consequently, this will enhance and enrich the literature of corporate governance.

REFERENCES

1. Abdelzaher, A., & Abdelzaher, D. (2019). Women on board and firm performance in Egypt: Post the Arab spring. The Journal of Developing Areas, 53(1), 226-241. https://doi.org/10.10353/jda.2019.0013
2. Abdullah, S. N., & Ismail, K. N. K. (2013). Gender, ethnic and age diversity of the boards of large Malaysian firms and performance. Journal of Business Ethics, 119(1), 27-40. https://doi.org/10.1007/s10551-013-1803-9
3. Adams, R. B., & Ferreira, D. (2014). Women in the boardroom and their impact on governance and performance. Journal of Financial Economics, 94(2), 291-309. https://doi.org/10.1016/j.jfineco.2016.09.001
4. Adams, S. M., & Flynn, P. M. (2005). Local knowledge advances women’s access to corporate boards. Corporate Governance: An International Review, 13(6), 836-846. https://doi.org/10.1111/j.1467-8683.2005.00474.x
5. Adnan, M. S., Sabli, N., Rashid, M. Z. A., Hashim, A., Paimo, H., & Abdullah, A. (2010). Ethnic board diversity and financial performance: Evidence from Malaysian GI-Cos. In M. A. Abdullah, W. K. Yahya, N. Ramli, S. R. Mohamed, & B. E. Ahmad (Eds.), Regional Conference on Science, Technology and Social Sciences (RCSTSS 2014) (pp. 27-36). https://doi.org/10.1007/978-981-10-1458-1_3
6. Aggarwal, R., Schloetzer, J. D., & Williamson, R. (2016). Do corporate governance mandates impact long-term firm value and governance culture? Journal of Corporate Finance, 59, 202-217. https://doi.org/10.1016/j.jcorfin.2016.06.007
7. Agymang-Mintah, P., & Schadowitz, H. (2019). Gender diversity and firm value: Evidence from UK financial institutions. International Journal of Accounting & Information Management, 27(1), 2-26. https://doi.org/10.1108/IJAIM-06-2017-0073
8. 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/10.1896/jqe/qg1049
9. Akpan, E. O., & Amran, N. A. (2014). Board characteristics and company performance: Evidence from Nigeria. Journal of Finance and Accounting, 23(1), 81-89. https://doi.org/10.11648/j.jfa.20140203.17
10. Ali, M., & Frederick, E. (2019). Age diversity management and organizational outcomes: The role of diversity perspectives. Human Resource Management Journal, 29(2), 287-307. https://doi.org/10.1111/j.1748-8583.12225
11. Ali, M., Ng, Y. L., & Kulik, C. T. (2014). Board age and gender diversity: A test of competing linear and curvilinear predictions. Journal of Business Ethics, 125(3), 497-512. https://doi.org/10.1007/s10551-013-1930-9
12. Al-Shaer, H., & Zaman, M. (2016). Board gender diversity and sustainability reporting quality. Journal of Contemporary Accounting & Economics, 12(3), 210-222. https://doi.org/10.1016/j.jcace.2016.09.001
13. Ammann, M., Oesch, D., & Schmid, M. M. (2011). Corporate governance and firm value: International evidence. Journal of Empirical Finance, 18(1), 36-55. https://doi.org/10.1016/j.jempfin.2010.10.003
14. Anderson, R. C., Reeb, D. M., Upadhyay, A., & Zhao, W. (2011). The economics of director heterogeneity. Financial Management, 40(1), 5-38. https://doi.org/10.1111/j.1757-503X.2010.01133.x
15. Ararat, M., Black, B. S., & Yurtoglu, B. B. (2017). The effect of corporate governance on firm value and profitability: Time-series evidence from Turkey. Emerging Markets Review, 30, 113-132. https://doi.org/10.1016/j.ememar.2016.10.001
16. Arun, T. G., Almahrogh, Y. E., & Ariibi, Z. A. (2015). Female directors and earnings management: Evidence from UK companies. International Review of Financial Analysis, 39, 137-146. https://doi.org/10.1016/j.irfa.2015.03.002
17. Basuony, M. A. K., Mohamed, E. K. A., & Samaha, K. (2018). Board structure and corporate disclosure via social media: An empirical study in the UK. Online Information Review, 42(5), 595-614. https://doi.org/10.1108/OR-01-2017-0013
18. Bjenskov, C. (2008). Social trust and fractionalization: A possible reinterpretation. European Sociological Review, 24(3), 271-283. https://doi.org/10.1093/esr/jcn004
19. Byron, K., & Post, C. (2016). Women on boards of directors and corporate social performance: A meta-analysis. Corporate Governance: An International Review, 24(4), 428-442. https://doi.org/10.1111/corg.12165
20. Carpenter, M. A., Sanders, G., & Gregersen, H. B. (2001). Bundling human capital with organizational context: The impact of international assignment experience on multinational firm performance and CEO pay. The Academy of Management Journal, 44(3), 493-511. https://doi.org/10.5465/3069366


22. Carter, D. A., D’Souza, F., Simkins, B. J., & Simpson, W. G. (2007). The diversity of corporate board committees and financial performance (Working Paper). https://doi.org/10.2139/ssrn.1106698

23. Carter, D. A., D’Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. Corporate Governance: An International Review, 18(5), 396-414. https://doi.org/10.1111/j.1467-8683.2010.00809.x

24. Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm value. The Financial Review, 38(1), 33-53. https://doi.org/10.1111/1540-6288.00034

25. Chaganti, R. (1986). Management in women-owned enterprises. Journal of Small Business Management, 24(4), 18-29.

26. Cheng, L. T. W., Chan, R. Y. K., & Leung, T. Y. (2010). Management demography and corporate performance: Evidence from China. International Business Review, 19(3), 261-275. https://doi.org/10.1016/j.ibusrev.2009.12.007

27. Child, J. (1974). Managerial and organizational factors associated with company performance (Part 1). Journal of Management Studies, 11(3), 175-189. https://doi.org/10.1111/j.1467-4686.1974.tb00693.x

28. 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/S0022109007003458

29. Conyon, M. J., & He, L. (2017). Firm performance and boardroom gender diversity: A quantile regression approach. Journal of Business Research, 79, 198-211. https://doi.org/10.1016/j.jbusres.2017.02.006

30. Daily, C. M., Dalton, D. R., & Cannella, A. A. (2003). Corporate governance: Decades of dialogue and data. Academy of Management Review, 28(3), 371-382. https://doi.org/10.5465/amr.2003.10196703

31. Darmadi, S. (2011). Board diversity and firm performance: The Indonesian evidence. Corporate Ownership & Control, 9(2-4), 450-466. https://doi.org/10.22495/cocv8i2c4p4p

32. Darmadi, S. (2013). Board members’ education and firm performance: Evidence from a developing economy. International Journal of Commerce and Management, 23(2), 113-135. https://doi.org/10.1056/ji069211311324911

33. Dobbin, F., & Jung, J. (2011). Corporate board gender diversity and stock performance: The competence gap or institutional investor bias? North Carolina Law Review, 89(3), 809-838. Retrieved from https://scholar.harvard.edu/dobbin/publications/corporate-board-gender-diversity-and-stock-performance-competence-gap-or-institut

34. Doney, P. M., Cannon, J. P., & Mullen, M. R. (1998). Understanding the influence of national culture on the development of trust. Academy of Management Review, 23(3), 601-620. https://doi.org/10.5465/amr.1998.926629

35. Engel, P.-J., van den Berg, A., & van den Laan, G. (2012). Board diversity as a shield during the financial crisis. B. S. Boubaker, B. D. Nguyen, & D. K. Nguyen (Eds.), Corporate governance: Recent developments and new trends (pp. 259-285). https://doi.org/10.1007/978-3-642-31579-4_11

36. Faley, O. (2007). Classified boards, firm value, and managerial entrenchment. Journal of Financial Economics, 83(2), 501-529. https://doi.org/10.1016/j.jfineco.2006.01.005

37. Frijns, B., Dodd, G., & Cimerova, H. (2016). The impact of cultural diversity in corporate boards on firm performance. Journal of Corporate Finance, 41, 521-541. https://doi.org/10.1016/j.jcorfin.2016.07.014

38. Garcia-Meca, E., Garcia-Sánchez, I.-M., & Martínez-Ferrero, J. (2015). Board diversity and its effects on bank performance: An international analysis. Journal of Banking & Finance, 53, 202-214. https://doi.org/10.1016/j.jbankfin.2014.12.002

39. Gottesman, A. A., & Morey, M. R. (2010). CEO educational background and firm financial performance. Journal of Applied Finance, 20(2), 70-82. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2693079

40. Gull, A. A., Nekhili, M., Nagati, H., & Chtioui, T. (2018). Beyond gender diversity: How specific attributes of female directors affect earnings management? The British Accounting Review, 50(3), 255-274. https://doi.org/10.1016/j.babar.2017.09.001

41. Gyapong, E., Monem, R. M., & Hu, F. (2016). Do women and ethnic minority directors influence firm value? Evidence from post-apartheid South Africa. Journal of Business Finance & Accounting, 43(3-4), 370-413. https://doi.org/10.1111/j.1468-5957.2015.02821.x

42. Hafsi, T., & Turgut, G. (2013). Boardroom diversity and its effect on social performance: Conceptualization and empirical evidence. Journal of Business Ethics, 112(3), 463-479. https://doi.org/10.1007/s10551-012-1272-z

43. Haniffa, R. M., & Cooke, T. E. (2002). Culture, corporate governance and disclosure in Malaysian corporatios. ABACUS, 38(3), 317-349. https://doi.org/10.1111/1467-6281.00112

44. Harjoto, M. A., Laksmiana, I., & Yang, Y. W. (2019). Board nationality and educational diversity and corporate social performance. Corporate Governance, 19(2), 217-239. https://doi.org/10.1108/CG-04-2018-0138

45. Hassanz, R., Marinimuthu, M., & Johl, S. K. (2015). Diversity, corporate governance and implication on firm financial performance. Global Business and Management Research: An International Journal, 7(2), 28-36. Retrieved from https://www.academia.edu/12826470/Diversity_Corporate_Governance_and_Implication_on_Firm_Financial_Performance

46. Herrmann, P., & Datta, D. K. (2005). Relationships between top management team characteristics and international diversification: An empirical investigation. British Journal of Management, 16(1), 69-78. https://doi.org/10.1111/j.1467-8551.2005.00429.x

47. Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. Academy of Management Review, 28(3), 383-396. https://doi.org/10.5465/amr.2003.10196729

48. Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. Journal of Management Studies, 37(2), 235-256. https://doi.org/10.1111/1467-6486.00179

49. Hillman, A. J., Shropshire, C., & Cannella, A. A. (2007). Organizational predictors of women on corporate boards. Academy of Management Journal, 50(4), 941-952. https://doi.org/10.5465/amr.2007.2627922
50. Hsu, C.-S., Lai, W.-H., & Yen, S.-H. (2019). Boardroom diversity and operating performance: The moderating effect of strategic change. *Emerging Markets Finance and Trade*, 55(11), 2448-2472. https://doi.org/10.1080/1540496X.2018.1519414
51. Jalbert, T., Chan, C., Jalbert, M., & Landry, S. P. (2007). The interrelationship of CEO nationality with financial management, firm performance, and CEO compensation. *Journal of Diversity Management*, 2(2), 7-24. https://doi.org/10.1093/dm/vi2i.5007
52. Jianakoplos, N. A., & Bernasek, A. (1998). Are women more risk averse? *Economic Inquiry*, 36(4), 620-630. https://doi.org/10.1111/j.1465-7295.1998.tb01740.x
53. Kagzi, M., & Guha, M. (2018). Does board demographic diversity influence firm performance? Evidence from Indian knowledge-intensive firms. *Benchmarking: An International Journal*, 25(2), 1028-1058. https://doi.org/10.1108/BJBM-07-2017-0203
54. Khanna, P., Jones, C. D., & Boivie, S. (2014). Director human capital, information processing demands, and board effectiveness. *Journal of Management*, 40(2), 557-585. https://doi.org/10.1177/0149206313515223
55. Kilduff, M., Angelmar, R., & Mehran, A. (2000). Top management-team diversity and firm performance: Examining the role of cognitions. *Organization Science*, 11(1), 21-34. https://doi.org/10.1287/orsc.11.1.21.12569
56. Kim, D., & Starks, L. T. (2016). Gender diversity on corporate boards: Do women contribute unique skills? *American Economic Review*, 106(5), 267-271. https://doi.org/10.1257/aer.p20161032
57. Kim, H., & Lim, C. (2010). Diversity, outside directors and firm valuation: Korean evidence. *Journal of Business Research*, 63(3), 284-291. https://doi.org/10.1016/j.jbusres.2009.01.013
58. Kipkiring Tarus, D., & Aime, F. (2014). Board demographic diversity, firm performance and strategic change: A test of moderation. *Management Research Review*, 37(12), 1110-1136. https://doi.org/10.1108/MRR-03-2013-0058
59. Kor, D., Konrad, A. M., Kramer, V., & Erkut, S. (2008). Critical mass: The impact of three or more women on corporate boards. *Organizational Dynamics*, 37(2), 145-164. https://doi.org/10.1016/j.jorgdyn.2008.02.005
60. Kunze, F., Boehm, S. A., & Bruch, H. (2011). Age diversity, age discrimination climate and performance consequences — A cross organizational study. *Journal of Organizational Behavior*, 32(2), 264-290. https://doi.org/10.1002/job.698
61. Kunze, F., Boehm, S. A., & Bruch, H. (2013). Organizational performance consequences of age diversity: Inspecting the role of diversity-friendly HR policies and top managers’ negative age stereotypes. *Journal of Management Studies*, 50(3), 413-442. https://doi.org/10.1111/joms.12016
62. Lafuente, E., & Vaillant, Y. (2019). Balance rather than critical mass or tokenism: Gender diversity, leadership and performance in financial firms. *International Journal of Manpower*, 40(5), 894-916. https://doi.org/10.1108/IJM-10-2017-0266
63. Lalil, C. N., Djazuli, A., & Indrawati, N. K. (2019). The influence of corporate governance, corporate social responsibility, firm size on firm value: Financial performance as mediation variable. *Journal of Aplikasi Manajemen*, 17(1), 179-186. https://doi.org/10.21776/ub.jam.2019.017.01.20
64. Li, H., & Chen, P. (2018). Board gender diversity and firm performance: The moderating role of firm size. *Business Ethics: A European Review*, 27(4), 294-308. https://doi.org/10.1111/beer.12188
65. Liu, Y., Wei, Z., & Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance*, 28, 160-184. https://doi.org/10.1016/j.jcorpfin.2013.11.016
66. Low, D. C. M., Roberts, H., & Whiting, R. H. (2013). Board gender diversity and firm performance: Empirical evidence from Hong Kong, South Korea, Malaysia and Singapore. *Pacific-Basin Finance Journal*, 35(A), 381-401. https://doi.org/10.1016/j.pafin.2015.02.008
67. Lückerath-Rovers, M., & Bos, A. D. (2011). Code of conduct for non-executive and supervisory directors. *Journal of Business Ethics*, 100(3), 465-481. https://doi.org/10.1007/s10551-010-0691-y
68. Mackey, N., Lutz, S., Hegazy, K., Mohamed, E. K. A., & Basuony, M. A. K. (2020). International ownership and firm performance in Arab economies [Special issue]. *Corporate Ownership and Control*, 17(4), 308-318. https://doi.org/10.22495/coocv17i4s08a49t8
69. Mackey, J. D., Roth, P. L., Van Iddekinge, C. H., & McFarland, L. A. (2019). A meta-analysis of gender proportionality effects on job performance. *Group & Organization Management*, 44(3), 578-610. https://doi.org/10.1177/1059601117730519
70. Mckippen, J. D., Soobaroyen, T., & Hanuman, V. O. (2012). Board composition and financial performance: Uncovering the effects of diversity in an emerging economy. *Journal of Business Ethics*, 105(3), 375-388. https://doi.org/10.1007/s10551-011-0973-x
71. Marimuthu, M. (2008). Ethnic diversity on boards of directors and its implications on financial performance. *The Journal of International Social Research*, 1(4), 431-445. Retrieved from https://www.sosyalarastirmalar.com/clt1/sayi4/sayi4pdf/marimuthu.pdf
72. Marinova, J., Plantenga, J., & Remey, C. (2016). Gender diversity and firm performance: Evidence from Dutch and Danish boardrooms. *The International Journal of Human Resource Management*, 27(15), 1777-1790. https://doi.org/10.1080/09585192.2015.1079229
73. Miller, T., & Triana, M. D. C. (2009). Demographic diversity in the boardroom: Mediators of the board diversity-firm performance relationship. *Journal of Management Studies*, 46(5), 755-786. https://doi.org/10.1111/j.1467-6863.2009.00839.x
74. Nielsen, S., & Huse, M. (2010). The contribution of women on boards of directors: Going beyond the surface. *Corporate Governance: An International Review*, 18(2), 136-148. https://doi.org/10.1111/j.1467-8683.2010.00784.x
75. Ntim, C. G. (2015). Board diversity and organizational valuation: Unravelling the effects of ethnicity and gender. *Journal of Management and Governance*, 19(1), 167-195. https://doi.org/10.1007/s10997-013-9283-4
76. Peni, E., & Vahiana, S. (2010). Female executives and earnings management. *Managerial Finance*, 36(7), 629-645. https://doi.org/10.1108/0307435101050543
77. Pieterse, A. N., van Knippenberg, D., & van Dierenolck, D. (2013). Cultural diversity and team performance: The role of team member goal orientation. *Academy of Management Journal*, 56(3), 782-804. https://doi.org/10.5465/amj.2010.0992
78. Pitts, D., & Jarry, E. (2007). Ethnic diversity and organizational performance: Assessing diversity effects at the managerial and street levels. *International Public Management Journal, 10*(2). https://doi.org/10.1080/10967490701323738
79. Post, C., Rahman, N., & Rubow, E. (2011). Green governance: Boards of directors’ composition and environmental corporate social responsibility. *Business and Society, 50*(1), 189–223. https://doi.org/10.1177/0007650310394642
80. Randøy, T., Thomsen, S., & Oxelheim, L. (2006). A Nordic perspective on corporate board diversity. Nordic Innovation Centre. Retrieved from http://www.diva-portal.org/smash/get/diva2:707100/FULLTEXT02
81. Reguera-Alvarado, N., de Fuentes, P., & Laffarga, J. (2017). Does board gender diversity influence financial performance? Evidence from Spain. *Journal of Business Ethics, 141*(2), 337–350. https://doi.org/10.1007/s10551-015-2735-9
82. Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review, 15*(2), 404–413. https://doi.org/10.1111/j.1467-8683.2007.00570.x
83. Rose, C., Munch-Madsen, P., & Funch, M. (2013). Does board diversity really matter? Gender does not, but citizenship does. *International Journal of Business Science & Applied Management, 8*(1), 16–27. Retrieved from https://www.business-and-management.org/library/2013/8_1-16-27-Rose,Munch-Madsen,Funch.pdf
84. Ruigrok, W., Peck, S., & Tacheva, S. (2007). Nationality and gender diversity on Swiss corporate boards. *Corporate Governance: An International Review, 15*(4), 546–557. https://doi.org/10.1111/j.1467-8683.2007.00587.x
85. Sabatier, M. (2015). A women’s boom in the boardroom: Effects on performance? *Applied Economics, 47*(26), 2717–2727. https://doi.org/10.1080/00036846.2015.1008774
86. Salloum, C., Jabbour, G., & Mercier-Suissa, C. (2019). Democracy across gender diversity and ethnicity of Middle Eastern SMEs: How does performance differ? *Journal of Small Business Management, 57*(1), 255–267. https://doi.org/10.1111/jsbm.12336
87. Schmidt, C., & Fahlenbrach, R. (2017). Do exogenous changes in passive institutional ownership affect corporate governance and firm value? *Journal of Financial Economics, 124*(2), 285–306. https://doi.org/10.1016/j.jfineco.2017.01.005
88. Shehata, N., Salhin, A., & El-Helaly, M. (2017). Board diversity and firm performance: Evidence from the U.K. SMES. *Applied Economics, 49*(48), 4817–4832. https://doi.org/10.1080/00036846.2017.1293796
89. Shukeri, S. N., Shin, O. W., & Shaari, M. S. (2012). Does board of director’s characteristics affect firm performance? Evidence from Malaysian public listed companies. *International Business Research, 5*(9), 120–127. https://doi.org/10.5539/ibr.v5n9p120
90. Sila, V., Gonzalez, A., & Hagendorff, J. (2016). Women on board: Does boardroom gender diversity affect firm risk? *Journal of Corporate Finance, 36*, 26–53. https://doi.org/10.1016/j.jcorfin.2015.10.003
91. Smith, N., Smith, V., & Vernier, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish firms. *International Journal of Productivity & Performance Management, 55*(7), 569–593. https://doi.org/10.1108/1741040061072160
92. Solakoglu, M. N., & Demir, N. (2016). The role of board characteristics on the relationship between gender diversity and firm performance. *Management Decision, 54*(6), 1407–1419. https://doi.org/10.1108/MD-02-2015-0075
93. Soliman, M. M., & Abd Elsalam, M. (2012). Corporate governance practices and audit quality: An empirical study of the listed companies in Egypt. *World Academy of Science, Engineering and Technology, 6*(11), 1292–1297. https://doi.org/10.5281/zenodo.1082865
94. Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics, 87*(3), 355–374. https://doi.org/10.2307/1882010
95. Sun, J., Liu, G., & Lan, G. (2011). Does female directorship on independent audit committees constrain earnings management? *Journal of Business Ethics, 99*(3), 369–382. https://doi.org/10.1007/s10551-010-0657-0
96. Talavera, O., Yin, S., & Zhang, M. (2018). Age diversity, directors’ personal values, and bank performance. *International Review of Financial Analysis, 55*, 60–79. https://doi.org/10.1016/j.irfa.2017.10.007
97. Tsou, M.-W., & Yang, C.-H. (2019). Does gender structure affect firm productivity? Evidence from China. *China Journal of Accounting Research, 15*, 19–36. https://doi.org/10.1016/j.jchicre.2019.03.005
98. Ujunwa, A. (2012). Board characteristics and the financial performance of Nigerian quoted firms. *Corporate Governance, 12*(5), 656–674. https://doi.org/10.1108/14720701211275587
99. Van der Walt, N., & Ingleby, C. (2003). Board dynamics and the influence of professional background, gender and ethnic diversity of directors. *Corporate Governance: An International Review, 11*(3), 218–234. https://doi.org/10.1111/1467-8683.00320
100. Veltrop, D. B., Hermes, N., Postma, T. J. B. M., & de Haan, J. (2015). A tale of two factions: Why and when factional demographic faultlines hurt board performance. *Corporate Governance: An International Review, 23*(2), 143–160. https://doi.org/10.1111/corg.12098
101. Wang, M.-J., Su, X.-Q., Wang, H.-D., & Chen, Y.-S. (2017). Directors’ education and corporate liquidity: Evidence from boards in Taiwan. *Review of Quantitative Finance and Accounting, 49*, 463–485. https://doi.org/10.1007/s11156-016-0597-6
102. Wang, Y., & Clift, B. (2009). Is there a “business case” for board diversity? *Pacific Accounting Review, 21*(2), 88–103. https://doi.org/10.1080/1140580911002044
103. Xu, Y., Zhang, L., & Chen, H. (2018). Board age and corporate financial fraud: An interactionist view. *Long Range Planning, 51*(6), 815–830. https://doi.org/10.1016/j.lrp.2017.08.001