Board Diversity in Thai Publicly Listed Firms

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ABSTRACT

One of the most important corporate governance mechanisms is the board of directors. In order to design an appropriate board of directors, the firm takes into account of not only how the board should be structured, but also who should constitute the board. Most of existing literature examines the board structure, but not board qualification. This study fills the research gap by preliminary analysing board qualification with the board diversity measurements in Thai publicly listed firms in 2015. The board diversity is quantified by multiple diversity dimensions including gender, age, education, experience, industry expertise, accounting/finance expertise, study majors and political network. The analysis is classified into four categories of the directorial positions: the whole board, the executive directors, non-executive directors and independent directors, in the full sample and two sub-samples of non-finance and finance firms. Our sample covers 5,903 board seats taken by 4,773 directors in 541 non-finance firms and 59 finance firms. The percentage of female directors is approximately 20%, however, most of the sample firms (about 80%) have at least one female director. The average age is about 67 years old for the whole board. On average, executive directors are 58 years old with the range of 32-78 for non-finance firms and 32-68 for finance firms. The tenure is about 8 years on average with interesting maximum- 28 years for executive directors, 29 years for non-executive directors and 21 years for independent directors. The majority of the directors graduated the highest education at Master Degree in the top three academic areas of business administration, engineering and law. The exceptional case is of the independent directors- their top three study majors are business administration, law and accounting. The percentage of independent directors with economics study background are about 10% and that with finance study background are about 5%. Most of our sample firms (94%), especially the firms listed in the Stock Exchange of Thailand and the large firms, have at least one director having accounting/finance expertise or experience. Additionally, each firm has at least one director with industry expertise. Compared with other diversity indices, the study major diversity index shows the most differences in the board, while the political diversity index reflects less political network in general. These findings can be used by regulators in formulating recommendations or regulations related to desirable board characteristics, as well as be instructive the qualitatively appropriateness of board monitoring vehicles.

Keywords: Board Diversity; Board Qualification; Board of Directors; Corporate Governance
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ความหลากหลายของคณะกรรมการในบริษัทจดทะเบียนไทย

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บทคัดย่อ

หนึ่งในกลไกลที่สำคัญที่สุดของหลักการกำกับดูแลคือคณะกรรมการ เพื่อที่จะออกแบบคณะกรรมการที่เหมาะสม บริษัทไม่เพียงแต่ควรคำนึงถึงคณะกรรมการควรมีโครงสร้างอย่างไร แต่ควรพิจารณาถึงใครควรเป็นคณะกรรมการ วรรณกรรมงานศึกษาที่มีอยู่ส่วนใหญ่แล้วจะพิจารณาถึงเพียงโครงสร้างคณะกรรมการแต่ยังไม่ได้ศึกษาถึงคุณสมบัติของคณะกรรมการ งานศึกษานี้จะปิดช่องว่างทางงานวิจัยโดยการวิเคราะห์เบื้องต้นในคุณสมบัติของคณะกรรมการจากความหลากหลายของคณะกรรมการในบริษัทจดทะเบียนในปี พ.ศ.2558 ทั้งนี้ความหลากหลายของคณะกรรมการวัดจากหลายมิติ ได้แก่ เพศ อายุ การศึกษา ประสบการณ์ ความสามารถเฉพาะในอุตสาหกรรม ความสามารถเฉพาะด้านการบัญชี/การเงิน สาขาวิชาที่เรียน และเครือข่ายทางการเมือง การวิเคราะห์แบ่งเป็นสี่ส่วนตามตำแหน่งของคณะกรรมการ- ทั้งคณะกรรมการ กรรมการบริหาร กรรมการที่ไม่ใช่ผู้บริหาร และกรรมการอิสระ ในกลุ่มตัวอย่างรวมและกลุ่มตัวอย่างย่อยของบริษัทที่อยู่นอกอุตสาหกรรมการเงินและบริษัทที่อยู่ในอุตสาหกรรมการเงิน กลุ่มตัวอย่างครอบคลุม 5,903 ที่นั่งกรรมการซึ่งถูกครอบครองโดย 4,773 กรรมการใน 541 บริษัทที่อยู่นอกอุตสาหกรรมการเงินและ 59 บริษัทที่อยู่ในอุตสาหกรรมการเงิน ผลการศึกษาพบว่าสัดส่วนของคณะการหญิงโดยเฉลี่ยประมาณ 20% อย่างไรก็ตามบริษัทส่วนใหญ่ (ประมาณ 80%) มีกรรมการหญิงอย่างน้อยหนึ่งคน อายุเฉลี่ยประมาณ 67 ปีสำหรับทั้งคณะกรรมการ ขณะที่โดยเฉลี่ยแล้วกรรมการบริหารมีอายุ 58 ปี โดยมีช่วงอายุระหว่าง 32-78 ปีสำหรับบริษัทที่อยู่นอกอุตสาหกรรมการเงิน และ 32-68 สำหรับบริษัทอยู่ในอุตสาหกรรมการเงิน ระยะเวลาการจ้างงานโดยเฉลี่ยประมาณ 8 ปี โดยมีระยะเวลาการจ้างงานสูงสุดที่น่าสนใจที่ 28 ปีสำหรับกรรมการบริหาร 29 ปีสำหรับกรรมการที่ไม่ใช่ผู้บริหาร และ 21 ปีสำหรับกรรมการอิสระ คณะกรรมการส่วนใหญ่จบการศึกษาสูงสุดระดับปริญญาโทในสามสาขาวิชาสูงสุดคือ บริหารธุรกิจ วิศวกรรมศาสตร์ และกฎหมาย ยกเว้นกรณีของกรรมการอิสระที่สามสาขาวิชาสูงสุดคือ บริหารธุรกิจ กฎหมาย และบัญชี สัดส่วนของกรรมการอิสระที่มีพื้นฐานทางการศึกษาด้านเศรษฐศาสตร์ประมาณ 10% และด้านการเงินประมาณ 5%. บริษัทส่วนใหญ่ในกลุ่มตัวอย่าง (94%) โดยเฉพาะอย่างยิ่งบริษัทที่จดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยและบริษัทขนาดใหญ่จะมีกรรมการอย่างน้อยหนึ่งท่านที่มีความความสามารถเฉพาะด้านการบัญชี/การเงิน นอกจากนี้ แต่ละบริษัทมีกรรมการอย่างน้อยหนึ่งท่านที่มีความความสามารถเฉพาะในอุตสาหกรรม เมื่อเปรียบเทียบกับดัชนีความหลากหลายอื่นพบว่าดัชนีด้านสาขาวิชาที่เรียนแสดงค่าความหลากหลายสูงสุด ขณะที่ดัชนีด้านเครือข่ายทางการเมืองแสดงค่าความหลากหลายต่ำสุด ผลการศึกษาสามารถถูกใช้โดยผู้กำกับดูแลในการให้คำแนะนำหรือกฎเกณฑ์ที่เกี่ยวข้องกับคุณสมบัติของคณะกรรมการที่ปรารถนาและยังให้ข้อมูลเกี่ยวกับกำกับดูแลติดตามความเหมาะสมของคณะกรรมการในเชิงคุณภาพ

คำสำคัญ: ความหลากหลายของคณะกรรมการ; คุณสมบัติของคณะกรรมการ; คณะกรรมการ; การกำกับดูแลกิจการ
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ผู้เขียนสังกัดมหาวิทยาลัยเกษตรศาสตร์ การศึกษานี้เป็นหนึ่งในผลิตผลจากโครงการความร่วมมือของตลาดหลักทรัพย์แห่งประเทศไทย จุฬาลงกรณ์มหาวิทยาลัย และมหาวิทยาลัยเกษตรศาสตร์ หากมีความผิดพลาด เป็นความรับผิดชอบของผู้เขียนเองทั้งหมด
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1. Introduction

Board of directors is one of the key internal corporate governance mechanisms that drive the success of business. The justification is based on two main theories: the agency theory and the resource dependence theory. The former suggests the monitoring role over managers, whereas the latter highlights the servicing role of the board or extracting external resources for firms. A stream of research is based on agency theory focusing on the strategic control function of boards, for example Fama and Jensen (1983); Hillman and Daniel (2003); Stiles and Taylor (2001); Zahra and Pierce (1985). Most of the existing research papers have focused on board structure covering board size, the separation between chairman and CEO, the percentage of independent directors on board (e.g. Globerman et al., 2011; Yernmack, 2006). The other important aspect of board relates to board characteristics that each individual can contribute to board decisions, such as gender, education, qualification, social network, expertise, skill and experience etc. The assumption is that the diversity in board characteristics can affect business decision making which leads to higher firm value. The diversity reflects not only their personal skills and background, but also the personal and professional social networks.

Nevertheless, the efficiency of board diversity is still in debate. Board diversity can result in the improvement of monitoring and advisory that such director contribute his/her skill and expertise to the firm (Anderson et al., 2011). By contrast, board diversity may cause the problems on coordination and communication in the board (Milliken and Martings, 1996).

Previous studies mostly analysed the role of board characteristics in developed economy countries and usually focused on gender diversity on board. This paper aims to fill this research gap by covering a broader approach to preliminary analysing the board diversity in Thailand-an emerging market of which the institutional background is unique. This extension needs the rich corporate governance database to construct an index of multiple diversity dimensions including gender, age, education, study major, experience, industry expertise and political network.

With regard to corporate governance on board in Thailand, the recent Principles of Good Corporate Governance 2012 in the section of responsibilities of the board state that the board should consist of directors with various qualifications, which are skills, experience and expertise that are useful to the company. Apart from SET, Thai Institute of Director (IOD) is the other organization that plays an important role on enhancing and promoting good corporate governance practices in Thai publicly listed firms. In 2007, IOD introduced Director Nomination Best Practices in which indicate that the board should appoint the Nomination Committee whose functions include to review the current board structure and to provide recommendations on director qualification and skills matrix to the board. Such best practices also specify the board's business competencies (i.e. accounting and finance, organization and human resources management, risk management, industry knowledge and anything that is necessary for the firms). Apart from directors' characteristics and board's diversity, the Nomination Committee may consider board's diversity and balance, such as the representatives from various stakeholders, personal and professional experience and backgrounds.

Our study covers firms listed in the Stock Exchange of Thailand and Market for Alternative Investment. The final sample covers 5,903 board seats taken by 4,773 directors. The non-finance and finance sample sizes are 541 firms and 59 firms. The findings show that the percentage of female directors on board is approximately one-fifth in full and sub-samples of non-finance and finance firms, as well as on any positions, i.e. executive, non-executive and independent. In other words, boards of directors in Thai listed firms are generally dominated by male directors. However, nearly 80% of the sample firms have at least one female director. The director's average age is about 67 years old. Executive directors are generally 58 years old with the range of 32-78 for non-finance firms and 32-68 for finance firms. The tenure is about 8 years on average: 9 years with the maximum of 28 years for executive directors, 8 years with the maximum

of 29 years for non-executive directors and 6 years with the maximum of 21 years for independent directors. The majority of the directors graduated the highest education at Master Degree. The most common three academic areas are business administration, engineering and law. The fields of accounting, finance and economics are typically less than 10% each. The exceptional case is of the independent directors- their top three study majors are business administration, law and accounting. Independent directors with economics study background are about 10% (9% for non-finance firms and 12% for finance firms) and those with finance study background are about 5%. Every firm has at least one director with industry expertise. Among all of the diversity index measures, the study major diversity index is the highest (the most diversity or the most differences or the most balanced) and the political diversity index is the lowest (the lowest diversity/ have less political network).

The remainder of the paper proceeds as follows. Section 2 reviews the literature and section 3 methodology and data sample. Section 4 presents the results, and section 5 concludes the paper.

2. Literature Review

Gender

The gender balance is one of the issues that have been motivated via political, legislative and regulative movements, partially due to the moral or social justification to better reflect the current demographic of workforce (Fairfax, 2011). For example the European Commission aims for at least 40% female on board by 2020, and the US Securities and Exchange Commission pledge 20% female participation on board by 2020, and the ASEAN corporate governance scorecard 2016 inspires the company to have at least one female independent director. Nevertheless, existing research studies document the low the percentage of female directors on board, for instances 0.096% in Turkey (Ararat et al., 2015), 14.5% in Denmark (Norden, 2006), 16.22% in Thailand (Sitthipongpanich et al., 2012), as well as 10.5% and 15.7% in the UK and Norway (Grosvold et al., 2007).

On one hand, the majority of research in the area of gender diversity on board examine its impact on corporate performance. The literature does not find the consensus on such relationship. On the other hand, the studies in the fields of economics and psychology report that women have less appetite for risk than men do (Byrnes et al., 1999; Barber and Odean, 2001). Nevertheless, there is scarce scientific evidence on the relationship between woman participation on board and firm risk, and the findings are inconclusive. The cases in point are Wilson and Adams and Ferreira (2004), Altanlar (2011), Berger et al. (2012), Farrel and Hersch (2005), Hillman et al. (2001), and Levi et al. (2013). Whether the demography of organizations matter remain the large debate. Agency theory points that directors are risk averse to protect their own personal welfare; however, directors can be induced to make decision for risky choices through various corporate governance mechanisms.

Age

In general, the experience and the maturity increase with age. Koufopoulos et al. (2008) highlight more psychological commitment of older directors, but greater grasping and learning new ideas of younger directors. Further, O'Brien and Robertson (2009) point that older directors may lack creativity and resilience, while younger directors may lack self-mastery and authenticity. Recent empirical studies generally show directors' average age at approximately 55 years old and the youngest age at 40 years old with various oldest age. For example, the range of age in Turkey is 40 – 72 years old (Ararat et al., 2015), while the range in Denmark is 40 – 68 years old (Norden, 2006). Sitthipongpanich et al. (2012) report the range of directors' age at 40 – 70 years old between 2001

and 2005 in Thailand.

Age diversity in the board tends to provide a various ideas in the boardroom from the steadiness and experience of older directors, as well as the dynamics and aggressiveness of younger directors (Andersen et al., 2011). In other words, generational diversity can lead to better monitoring as a result of balancing the young directors' enthusiasm, energy and risk appetite with the older directors' experience, caution and risk averseness.

Education

Education level can represent the individual's level of knowledge and skill on decision making. The trade-off occurs between more analytical skills of directors with postgraduate degrees and more intuitive skills/ tacit knowledge of directors with limited education (Datta and Rajagopalan, 1998; Finkelstein and Hambrick, 1996; Hambrick and Mason, 1984). Ararat et al. (2010) and Sitthipongpanich et al. (2012) find that most firms have directors with postgraduate degrees in Turkey and Thailand, respectively. Only in the younger firms, the founding directors have a limited education. Bell et al. (2011) report that the source of directors' cognitive difference arises from the average level of formal education rather than the type of education.

Andersen et al. (2011) document that board diversity on education can contribute to higher firm value due to their complementary to each other. However, several studies do not support the influence of education level on firm value, such as Bathula (2008) in New Zealand and Kim and Lim (2010) in Korea.

Experience/Expertise

Expertise corresponds to directors' abilities and competence. The expertise diversity can lead to wider and deeper opinions to monitor and advise managers. Andersen et al. (2011) and Hagendorff and Keasey (2012) find the positive relation between expertise diversity and firm value, while Kim and Lim (2010) show the negative relation.

Study majors

Study majors tend to reflect greater knowledge to develop essential corporate strategies and, hence, are more likely to affect firm performance. The major of study, especially the business degree, can provide an in-depth knowledge in the business decision making.

The examples of studies in this area in the US are Agrawal and Knoeber (2001), Hsu (2010) and Yermack (2006). In addition, Kim and Lim (2010) support that diversity in study majors can help directors provide broader advice to managers in Korea. Besides, directors with law educational background are commonly found in firms requiring political connection to the government (Agrawal and Knoeber, 2001). Sitthipongpanich et al. (2012) also report that most of the sample firms appoint former bureaucrats as the directors and highlight the importance of board diversity in age, study majors (i.e. business administration) and alumni network to firm performance in Thailand.

Social and Political networks

Social and political networks are typically recognized to have an impact on the perception and the process of decision making. The reason is related to a lower cost of searching for information in the trusted network, especially in the weak legal system (McMillan and Woddruff, 1999).

Empirical evidence shows both the advocacy to and the contradiction in the influence of

social and political networks. Agrawal and Knoeber (2001) and Nicholson and Kiel, 2007) for the US, Khwaja and Mian (2005) for Pakistan and Siegel (2007) for Korea similarly find that the firm can obtain the opportunity for external resources via political networks, while it can gain useful information through social networks. Using ex-military and ex-bureaucrats as the proxy for political networks, Peng et al. (2001) indicate the significant role of military directors on firm value in Thai multinational firms.

3. Methodology and Sample

Methodology

Various ways have been used to define and measure board diversity in the literature to account for differences among directors on the attributes (i.e. observable/ demographic) and opinions (i.e. unobservable/ cognitive). We quantify individual director data and then aggregate into the whole board to measure the differences among directors in each firm. Following Hagendorff and Keasey (2012), Kim and Lim (2010) and Sitthipongpahich et al. (2012), we measure board diversity in terms of either the percentage of such particular aspect relative to total directors and the modified Herfindahl Index (HHI). Board diversity is classified into seven categories: gender, age, education, experience, industry expertise, study majors and political network. The details of each diversity category are as of following.

1. Gender diversity
    a. The percentage of female directors on board
    b. The percentage of companies with at least one female director
    c. Gender diversity index = $1 - \left[\sum_{g=1}^{n}\left(\frac{gender_g}{total\ number\ of\ directors}\right)^2\right]$,
    where $gender_g$ = the number of directors in each gender cohort (g), i.e. female and male
2. Age diversity
    a. Average age of directors
    b. The percentage of directors in 4 age cohorts: less than 30 years, 31-45 years old, 46-60 years old, and older than 60 years old.
    c. Age diversity index = $1 - \left[\sum_{g=1}^{n}\left(\frac{age_g}{total\ number\ of\ directors}\right)^2\right]$,
    where age_g = the number of directors in each age cohort (g).
3. Education diversity
    a. The percentage of directors in 4 highest education cohorts: below Bachelors degree, Bachelors degree, Masters degree and Doctoral degree.
    b. Education diversity index $= 1 - \left[\sum_{g=1}^{n}\left(\frac{edu_g}{total\ number\ of\ directors}\right)^2\right]$,
    where edu_g = the number of directors in each education cohort (g).
4. Experience diversity from his/her tenure
    a. Average tenure
    b. The percentage of directors in 4 experience cohorts: less than 3 years, 4-6 years, 7-9 years, and more than 9 years
    c. Experience diversity index $= 1 - \left[\sum_{g=1}^{n}\left(\frac{experience_g}{total\ number\ of\ directors}\right)^2\right]$,
    where edu_g = the number of directors in each experience cohort (g).
5. Industry expertise diversity
    a. The percentage of director who have directly industry worked field

b. The percentage of companies with at least one director with directly industry worked field

c. Industry expertise index = $1 - \left[\sum_{g=1}^{n}\left(\frac{indust_g}{total\ number\ of\ firms}\right)^2\right]$,

where $indust_g$ = the number of directors in each industry expertise cohort (g), i.e. have and do not have industry expertise.

6. Accounting/Finance expertise diversity

a. The percentage of director with accounting/finance expertise or experience

b. The percentage of companies with at least one director with accounting/finance expertise or experience

c. Accounting/Finance expertise index = $1 - \left[\sum_{g=1}^{n}\left(\frac{accfin_g}{total\ number\ of\ firms}\right)^2\right]$

where $accfin_g$ = the number of directors in each accounting/finance expertise cohort (g), i.e. have and do not have accounting/finance expertise or experience.

7. Study major diversity

a. The percentage of directors in 11 study major cohorts: business administration, finance, accounting, management, economics, law, arts, engineer, science, medicine, and agriculture.

b. Study major diversity index = $1 - \left[\sum_{g=1}^{n}\left(\frac{major_g}{total\ number\ of\ directors}\right)^2\right]$,

where $major_g$ = the number of directors in each study major cohort (g).

8. Political network

a. The percentage of director who are political bureaucrats (i.e. military and police).

b. The percentage of companies with at least one director being political bureaucrats (i.e. military and police)

c. Political network diversity index = $1 - \left[\sum_{g=1}^{n}\left(\frac{political_g}{total\ number\ of\ firms}\right)^2\right]$,

where $political_g$ = the number of directors in each political network cohort (g), i.e. have and do not have director with political bureaucrats (i.e. military and police).

Finally, we calculate descriptive analysis of board characteristics. The statistics include number of observation, mean, median, maximum and minimum. For the whole of paper, we do the analysis for the board, executive directors, non-executive directors and independent directors in the full sample and various sub-samples: by industry (non-finance firms and finance firms separately due to their different regulations and corporate governance practices), listed markets (SET and mai), and the percentile of market capitalization (large, medium, and small). Large market capitalization firms are firms with market capitalization above the 70th percentile. Medium market capitalization firms are firms with market capitalization between the 30th and 70th percentile. Small market capitalization firms are firms with market capitalization below the 30th percentile.

Sample

Our sample are firms listed in the Stock Exchange of Thailand (SET) and Market for Alternative Investment (mai) in 2015. Director qualification and characteristics data is manually collected from the companies' annual registration statement (Form 56-1). The firms in the analysis must have a complete information set of each individual board qualification and characteristics.

The initial sample consists of 602 listed firms with 6,731 board seats taken by 5,390 directors. After the criterion of complete information is applied, the final sample covers nearly the whole of initial sample (600 listed firms) with 5,903 board seats taken by 4,773 directors. Only one SET listed firms and one mai listed firms are missing. The sample size of non-finance and finance firms are 541 firms and 59 firms. The sample firms can be categorized into nine industries: Consumer Products, Agro & Food Industry, Financial, Industrials, Property & Construction, Resources, Services, and Technology. The details of initial sample and final sample are shown in Table 1.

4. Results

Descriptive statistics of director diversity characteristics are presented in Table 2 for board diversity, Table 3 for executive director diversity, Table 4 for non-executive director diversity and Table 5 for independent director diversity.

Board diversity

In the full sample, gender diversity is typically low as gender diversity index is only 0.25 on average. The percentage of female directors on board is approximately one-fifth with the maximum and the minimum values at 67% and 0%, respectively. This percentage of female directors on board is quite high relative to the empirical evidence by Ararat et al. (2015) in Turkey at 0.096%, Grosvold et al. (2007) in the UK and Norway at 10.5% and 15.7%, Norden (2006) in Denmark at 14.5%, Singapore Institute of Directors & Institute of Singapore Chartered Accountants (2014) at 9.7%. However, nearly 80% of the sample firms have at least one female director. With regard to age, the average age is about 67 years with the youngest average age of 32 years old and the oldest average age of 96 years. Directors in our sample firms are more senior than those in existing literature in other markets, for example Turkey at 54 years old with a range of 40 – 72 years old by Ararat et al. (2015) and Denmark at 54 years with the range of 40 – 68 years by Norden (2006). Among four cohorts, directors in the range of older than 60 years are found often (46.87%) and the youngest cohort is appointed less than 1%. Age diversity index is 0.49. The majority of directors have Master's degree (53%) and the minority of directors hold below bachelor's degree. Their education diversity index is 0.51. The directors have been appointed about 8 years with the maximum of 20 years. The top tenure cohorts are less than 3 years (33%) and more than 9 years (34%). The tenure diversity index is 0.50. Approximately one-third of the directors have a direct working experience in the industry with the maximum of 100% and the minimum of 0%. All of the firms have at least one director having industry expertise, but the industry expertise diversity index is quite low (0.19). About 30% of the directors have accounting/finance expertise or experience and 94% of the firms have at least one director with accounting/finance expertise or experience. The study major diversity index is the highest (0.75), whereas the political diversity index is the lowest (0.06) among all diversity index. The top three cohorts of study majors are business administration (32%), engineering (14%), and law (13%). Interestingly, accounting, economics and finance are less frequently found, i.e. 4%, 11% and 8%, respectively. Besides, on average, the firms have only 4% of their directors being political bureaucrats and approximately 28% of our sample have at least one political bureaucrat director.

In the sub-samples of non-finance and finance firms, gender diversity index is 0.25 for non-finance firms and 0.28 for finance firms on average. The percentage of female directors on board in non-finance firms is approximately 18% with the maximum and the minimum values at 67% and 0%, respectively; whereas that in finance firms is approximately 19% with the maximum and the minimum values at 56% and 0%, respectively. However, about 80% of both sub-samples have at least one female director. The average age is about 67 years old in both sub-samples, but

the range is different. The range of average age is 32 - 96 years for non-finance firms, while that is 48 – 85 for finance firms. The age statistics of non-finance firms are slightly higher than that in Sitthipongpanich et al. (2012) which report the directors' average age at 55 years old and the range of directors' age at 40 – 70 years old in 2001 – 2005. Our evidence tends to support the fact that the non-finance firms are more likely to design their board to earn skills/experience from the senior directors and simultaneously allow the dynamics from the junior directors. Directors in the range of older than 60 years are found often (nearly 50% for both non-finance firms and finance firms). The small number of directors in non-finance firms and none of director in finance firms is younger than 30 years old. Age diversity index is closed to 0.50 (0.49 for non-finance firms and 0.47 for finance firms). Likewise, education diversity index is about 0.50 (0.52 for non-finance firms and 0.49 for finance firms). The education diversity index for non-finance firms is slightly lower than that is reported in Sitthipongpanich et al. (2012) at 0.57. The majority of directors have Master's degree (52% for non-finance firms and 61% for finance firms) and the inconsiderable number of director holds below bachelor's degree. The directors in non-finance firms have been appointed for 8 years with the maximum of 20 years, while the directors in finance firms have been appointed for 7 years with the maximum of 16 years. The top two tenure cohorts are less than 3 years (33% for non-finance firms and 35% for finance firms) and more than 9 years (35% for non-finance firms and 31% for finance firms). The tenure diversity index is 0.49 for non-finance firms and 0.53 for finance firms. Approximately 38% of the directors in non-finance firms and 45% of the directors in finance firms have a direct working experience in the industry with the maximum of 100% and the minimum of 0%. All of the firms have at least one director having industry experience, but the industry expertise diversity index is 0.38 and 0.41 for non-finance and finance firms, respectively. About 60% of the directors on board for finance firms and 30% of the directors on board for non-finance firms have accounting/finance expertise or experience. In other words, 100% of finance firms and 94% of non-finance firms have at least one director having accounting/finance expertise or experience. The study major diversity index is the highest (0.75 for non-finance and 0.75 for finance firms), whereas the political diversity index is the lowest (0.06 for non-finance and 0.04 for finance firms) among all diversity index. In non-finance firms, the top three cohorts of study majors are business administration (32%), engineer (15%), and law (12%). The study majors of economics and finance i.e. 10%, 8% and 4%, respectively, in non-finance firms. In finance firms, the top three cohorts of study majors are business administration (35%), engineer (15%), law (13%) and accounting (12%). Interestingly economics and finance are less frequently found, i.e. 11% and 6% respectively. Besides, on average, the firms do not have many directors being political bureaucrats (4% for non-finance firms and 2% for finance firms) and less than one-third of directors in both sub-samples have at least one political bureaucrat director (28% for non-finance firms and 25% for finance firms).

Taking into account the market listed and firm size, gender diversity measures show similar pattern with 16% (large firms in SET) to 20% (mai) of female directors on board and 80% of the sample having at least one female director on board. With regard to age diversity, average age is 67 – 68 years old with the widest range at 32 – 96 years old in firms listed in SET and the narrowest range at 43 – 96 in medium firms listed in SET. The majority of the directors fall in the age cohort of older than 60 years old in every sub-sample with the exception of mai listed firms in which most of the directors are between 46 and 60 years old. Most of the directors in all of sub-samples by listed market and firm size graduate Master's degree. Average tenure is from 7 years (mai listed firms and large SET listed firms) to 9 years (small SET listed firms). The first ranked tenure cohort is more than 9 years for SET listed firms (37%), medium SET listed firms (39%) and small SET listed firms (41%), but is less than 3 years for mai listed firms (36%) and large SET listed firms (37%). Like the full sample and sub-samples by industry, the sub-samples by listed market and firm size have about 40% of the directors having industry expertise and all of them have at least one director with industry expertise. With regard to accounting/finance expertise, SET listed firms have more directors with accounting/finance expertise or experience than mai listed firms do:

overall SET 32%, large SET firms 34%, medium SET firms 32% small SET firms 28% and mai firms 24%. That is 94% of the SET firms or 91% of the mai firms have at least one director with account/finance expertise or experience. The top three study majors are business administration, engineering and law for all of the sub-samples by listed market and firm size. On average, the firms in SET and mai do not have more than 5% of their directors being political bureaucrats. Or only 27% of SET sample (31%, 22% and 29% for large, medium and small SET firms respectively) and 30% of mai sample have at least one political bureaucrat director

Executive director diversity

In the full sample, gender diversity index is 0.15 on average. The percentage of female directors on board is also approximately 18% with the maximum and the minimum values at 100% and 0%, respectively. Additionally, about 80% of the sample firms have at least one female director. The average age is 59 years old with the youngest average age of 29 years old and the oldest average age of 96 years. Among four cohorts, directors in the range of older than 60 years are found frequently (44%) and the youngest cohort is appointed less than 1%. The age diversity index is only 0.30 and education diversity is 0.31. The majority of directors graduated Master's degree (50%) and there are not many directors holding below bachelor's degree (6%). Executive directors have been appointed for 9 years with the maximum of 28years. The top tenure cohorts are more than 9 years (36%) and less than 3 years (36%). In Singapore, half of the firms have executive directors serving for at least 6 years and about quarter have executive directors serving for more than 10 years. The tenure diversity index is quite low at 0.29. With regard to expertise, the directors have industry expertise and accounting/finance expertise at 77% and 27%, respectively. At least one director have industry expertise in every firm, but only a half of the sample firms have accounting/finance expertise. The industry and accounting/finance expertise diversity indices are 0.19 and 0.16 only, respectively. The study major diversity index is the highest (0.53) and quite balanced, whereas the political diversity index is the lowest (0.02). The top three cohorts of study majors are business administration (35%), engineer (16%), and law (12%). Executive directors with accounting, economics and finance are generally lower than 10%, i.e. 7%, 8% and 4%, respectively. With regard to political diversity, the firms have only 2% of their directors being political bureaucrats and 6% of our sample have at least one political bureaucrat director.

In the non-finance and finance sub-samples, gender diversity index is 0.18 for non-finance firms and 0.15 for finance firms on average. The percentage of female directors on board in non-finance firms (18%) is slightly lower than that in finance firms (23%). The maximum and the minimum values of the percentage of female directors on board is at 100% and 0%, respectively in both sub-samples. Less than 50% of the sample firms (45% for non-finance firms and 43% for finance firms) have at least one female director. The executive's average age is about 54 years old for non-finance firms and 56 years old for finance firms. Both sub-samples show the youngest average age at 32 years old. The oldest average age of executives in non-finance firms at 78 years old which is 10 years higher than that in finance firms. Among four cohorts, directors in the range of 46-60 years old are found frequently (53% for non-finance firms and 65% for finance firms). Executive directors younger than 30 years old is rarely in non-finance firms (1%) and is not documented at tall in finance firms. The age diversity index is only 0.30 for non-finance firms and 0.20 for finance firms on average. Likewise, their education diversity is quite unbalanced at 0.29 for non-finance firms and 0.25 for finance firms). The majority of directors have Master's degree (54% for non-finance firms and 67% for finance firms) and the minority of directors hold below bachelor's degree (6% for non-finance firms and 2% for finance firms). Executive directors in non-finance firms have been appointed for a slightly longer time than those in finance firms. The average tenure is 9 years with the maximum of 28 years for non-finance firms, whereas the average tenure is about 8 years with the maximum of 24 years for finance firms. The top tenure cohorts

are more than 9 years (36% for non-finance firms and 36% for finance firms) and less than 3 years (36% for non-finance firms and 25% for finance firms). The tenure diversity index is quite low also (0.29 for non-finance firms and 0.26 for finance firms). At least one director having industry expertise. Approximately 77% and 80% of the directors in non-finance firms and finance firms have a direct working experience in the industry with the maximum of 100% and the minimum of 0%. Non-finance firms (21% of the directors on board or 46% of the sample firms) have much less percentage of the directors with accounting/finance expertise than finance firms (84% of the directors on board or 97% of the sample firms) do. The industry expertise diversity index is about 0.14 only. The study major diversity index is higher than 0.5, whereas the political diversity index is lower than 0.1. In non-finance firms, the top three cohorts of study majors are business administration (38%), engineer (19%), and accounting (9%). In finance firms, the top three cohorts of study majors are business administration (45%), law (10%) and economics (9%). Executive directors with economics and finance are generally lower than 10%, i.e. 5% and 4% in non-finance firms. Executive directors in finance firms with the study majors of accounting and finance are 10% and 7%, respectively. With regard to political diversity, the non-finance firms have only 1% of their directors being political bureaucrats and 2% of our sample have at least one political bureaucrat director. None of executive directors in finance firms is political bureaucrats.

In the sub-samples by listed market and firm size, women involve on the board as executive directors in SET firms (19% of the directors or 45% of the sample firms) and the larger firms (14% of the directors or 39% of the sample firms) less than that those in mai (23% of the directors or 48% of the sample firms) and the smaller firms (22% and 21% of the executive directors or 46% and 48% of the sample firms for medium and small SET firms, respectively). However, the median value of the percentage of female executive directors and the percentage of firms with female executive directors is 0 for all of the sub-samples. Executive directors in SET firms (overall and its sub-samples by firm size) have an average age of 55 years old, while those in mai firms have an average age of 52 years old. More than half of the executive directors are in the cohort of 46 – 60 years old, earn Master's degree and undertook the study major of business administration. Executive directors have been working for 9 years on average and at least 40% of them have tenure more than 9 years. The exceptional case is large SET listed firms of which have average tenure at 8 years and most of them have been on board less than 3 years (37%). The majority of executive directors have industry expertise (mean: nearly 80% and median: 100%) and all of the firms have at least one executive director with industry expertise. In addition, the larger the firms, the higher the percentage of directors having accounting/finance expertise or experience, e.g. 28% for SET firms vs 21% for mai firms and 32% for large SET firms vs 25% for small SET firms. Likewise, 52% of SET firms in overall and 56% large SET firms have at least one directors with accounting/finance expertise or experience, but mai firms and small SET firms show this evidence at 44% and 48% only. Executive directors with political bureaucrats generally involve on board at the marginal rate (less than 1% of the sample firms). However, the evidence appears 100% of executive directors who are political bureaucrats at the maximum in small SET firms

Non-executive director diversity

In the full sample, the percentage of female directors on board is approximately one-fifth with the maximum and the minimum values at 100% and 0%, respectively. About 42% of the sample firms have at least one female director. For their age, the average is about 59 years old with the youngest average age of 29 years old and the oldest average age of 88 years old. Among four cohorts, directors in the range of older than 60 years are found often (44%) and the youngest cohort is appointed less than 1%. The age diversity is 0.30 only. Similarly, their education diversity is quite low (0.31). The majority of directors have Master's degree (50%) and the minority of directors

hold below bachelor's degree (6%). Non-executive directors have been appointed for 8 years with the maximum of 29 years. Approximately 72% of non-executive directors have served between 3 and 9 years and about 36% have served on board longer than 9 years. In Singapore, non-executive directors' tenure cohorts of 3-6 years and longer than 9 years are 40% and 32%, respectively. The tenure diversity index is also low (0.29). Approximately 37% and 28% of the directors have industry expertise and accounting/finance expertise, respectively. Although all of the firms have at least one director having industry expertise, the industry expertise diversity index is quite low (0.19). The study major diversity index is the highest (0.75), whereas the political diversity index is the lowest (0.02) among all diversity index. The top three cohorts of study majors are business administration (36%), engineer (16%), and law (12%). Non-executive directors with accounting (7%), economics (8%) and finance (4%) are not frequently found. Besides, on average, the firms have only 2% of their directors being political bureaucrats and only 6% of our sample have at least one political bureaucrat director.

The percentage of female directors on board is approximately 22% in non-finance firms and 15% in finance firms. Their maximum and the minimum values of the percentage of female directors on board are at 100% and 0%, respectively. About 54% of the non-finance firms and 42% of finance firms have at least one female director. For their age, the average is 58 years old with the youngest average age of 29 years old and the oldest average age of 88 years old in non-finance firms. The average is 59 years old with the youngest average age of 34 years old and the oldest average age of 83 years old in finance firms. Among four cohorts, directors in the range of older than 60 years are found often- 44% for non-finance firms and 47% for finance firms. The youngest age cohort (i.e. less than 30 years old) is appointed lest than 1% in non-finance firms, but not appointed at all in finance firms. The age diversity index and education diversity index are quite low at about 0.3 on average in both sub-samples. The majority of directors have Master's degree (49% for non-firms and 59% for finance firms) and the minority of directors hold below bachelor's degree (7% for non-firms and 1% for finance firms). The non-executive directors in non-finance firms have been appointed about 8 years with the maximum of 29 years, while those in finance firms have been appointed about 8 years with the maximum of 24 years. In non-finance firms, the top tenure cohorts are less than 3 years (35%) and more than 9 years (36%). In finance firms, the top tenure cohorts are less than 3 years (39%) and more than 9 years (35%). The tenure diversity index is also low (0.28 for non-firms and 0.34 for finance firms on average). Approximately 35% and 48% of non-executive directors in non-finance and finance firms have a direct working experience in the industry with the maximum of 100% and the minimum of 0%. All of the firms have at least one director having industry expertise, but the industry expertise diversity index is still low (0.18 for non-finance firms and 0.29 for finance firms). Like executive directors, non-executive directors in non-finance firms (24% of the directors on board or 52% of the sample firms) have much less percentage of directors with accounting/finance expertise than those in finance firms (60% of the directors on board or 87% of the sample firms) do. The study major diversity index is the highest (>0.5), whereas the political diversity index is the lowest (< 0.1) among all diversity index. In non-finance firms, the top three cohorts of study majors are business administration (35%), engineer (17%), and law (12%). The study majors of accounting, economics and finance are not recorded at lower than 10%. In finance firms, the top three cohorts of study majors are business administration (37%), law (13%) and accounting (11%). The study majors of finance (6%) and economics (9%) are not frequently found. Besides, on average, the firms have only 3% and 1% of their non-executive directors being political bureaucrats in non-finance firms and finance firms, respectively. On average, only 6% and 5% of our non-finance and finance sub-samples have at least one political bureaucrat director.

In the sub-samples by listed market and firm size, non-executive female directors have the percentage on board about 18% by mean value, but 0% by median value for all of the sub-samples. However, the larger firms tend to have non-executive female directors than the smaller firms (43%

in SET firms vs 37% in mai firms and 48% in large SET firms vs 41% in small SET firms). Non-executive directors are 58 – 59 years old and more than 40% of them are in the cohort of older than 60 years old. More than half of the non-executive directors graduated Master's degree and the majority (at least 30% of them) hold the study major of business administration. Average tenure is 7 years for mai listed firms and large SET listed firms, but 9 years for the rest. Like the board, the non-executive directors have the first ranked tenure cohort of more than 9 years for SET listed firms (38%), medium SET listed firms (41%) and small SET listed firms (42%), but of less than 3 years for mai listed firms (36%) and large SET listed firms (40%). The mai firms have more non-executive directors with industry expertise, but less non-executive directors with accounting/finance expertise than SET firms have in overall, i.e. mai 39% vs SET 36% for industry expertise and mai 17% vs SET 30% for accounting/finance expertise. However, within SET sample firms, the larger the firms, the higher percentage of non-executive directors with industry expertise as well as accounting/finance expertise. Only a few percentage of non-executive directors are political bureaucrats. However, there appears the evidence of 100% of non-executive directors who are political bureaucrats at the maximum in mai firms and medium SET firms

Independent director diversity

In the full sample, gender diversity is low as well. The percentage of female directors on board is approximately 16% with the maximum and the minimum values at 100% and 0%, respectively. About 47% of the sample firms have at least one female director. The average age is about 63 years old with the youngest average age of 40 years old approximately and the oldest average age of 82 years old. Among four cohorts, directors in the range of older than 60 years are found often (64%) and none of independent directors is younger than 30 years old. The age diversity is 0.31 on average. Also, their education diversity is quite low (0.42) on average. The majority of directors have Master's degree (54%) and the minority of directors hold below bachelor's degree (1%). Independent directors have been appointed about 6 years- similar to the evidence in Singapore. The top tenure cohorts are less than 3 years (35%) and more than 9 years (27%). The tenure diversity index is also low (0.34). Approximately 13% and 35% of the independent directors have industry and in accounting/finance expertise, respectively, with the maximum of 100% and the minimum of 0%. All of the firms have at least one director having industry expertise, but the industry expertise diversity index is quite low (0.15). The study major diversity index is the highest (0.70), whereas the political diversity index is the lowest (0.09) among all diversity index. The top three cohorts of study majors are business administration (26%), law (17%), and accounting (14%). Independent directors with economics (10%) and finance (5%) are not frequently documented. On average, the firms have 7% of their directors being political bureaucrats and 23% of our sample have at least one political bureaucrat director.

In the non-finance and finance sub-samples, gender diversity is low also. The percentage of female directors on board is approximately 16% for non-finance firms and 19% for finance firms. The maximum and the minimum values are at 100% and 0% respectively for non-finance firms, but are at 67% and 0% respectively for finance firms. About 46% of non-finance firms and 63% of finance firms have at least one female director. The average age is about 63 years old in both sub-samples. However, the range of their ages is different: 40 – 82 years old for non-finance firms and 49 – 76 for finance firms. Among four cohorts, directors in the range of older than 60 years are found often (64% for non-finance firms and 67% for finance firms), but none of independent directors is younger than 30 years old. The age diversity and education diversity is quite low (<0.5) in both sub-samples. The majority of directors have Master's degree (53% for non-finance firms and 60% for finance firms) and the minority of directors hold below bachelor's degree (1% for non-finance firms and 1.35% for finance firms). The independent directors have been appointed about 6 years in non-finance firms and 7 years in finance firms with the interesting

maximum of 21 years and 18 years for non-finance and finance firms, respectively. The top tenure cohorts are less than 3 years (35% in both sub-samples) and more than 9 years (27% for non-finance firms and 30% for finance firms). The tenure diversity index in both sub-samples is 0.33 for non-finance firms and 0.40 for finance firms on average. There are about 12% vs 22% and 35% vs 42% of independent directors in non-finance firms vs finance firms having a direct working experience in the industry and accounting/finance expertise, respectively. At least one director have industry expertise; however the industry expertise diversity index is quite low (0.14 for non-finance firms and 0.22 for finance firms on average). The study major diversity index is the highest (> 0.5), whereas the political diversity index is the lowest (< 0.1) among all diversity index. The top three cohorts of study majors are business administration (26% for non-finance firms and 30% for finance firms), law (17% for non-finance firms and 15% for finance firms), and accounting (14% for both sub-samples). Independent directors with economics & finance are reported at 9% & 5% for non-finance firms and 12% & 5% for finance firms. On average, the non-finance firms have 7% of their directors being political bureaucrats and 23% of our sample have at least one political bureaucrat director. Similarly, the finance firms have 5% of their directors being political bureaucrats and 20% of our sample have at least one political bureaucrat director.

In the sub-samples by listed market and firm size, female independent directors have the percentage on board about 15 – 17% and about half of the sample firms have at least one female independent director by mean value, but 0% by median value for all of the sub-samples. On average, independent directors are 64 years old in all sub-samples, with the exception of mai firms in which the average is 60 years old. Nevertheless, more than half of the directors in all sub-samples are in the age cohort of older than 60 years old. Like other directorial positions, independent directors hold Master's degree and in the major of business administration. Independent directors in SET firms (7 years) have been on board longer than those in mai firms (5 years). The tenure cohort of less than 3 years has the greatest percentage of directors on board in both SET and mai firms. The mai firms have more independent directors with industry expertise, but less accounting/finance expertise than SET firms have in overall, i.e. mai 16% vs SET 13% for industry expertise and mai 32% vs SET 36% for accounting/finance expertise. Within SET sample firms, the larger the firms, the higher percentage of independent directors on board with industry expertise as well as accounting/finance expertise. On average, 5% - 8% of independent directors are political bureaucrats and 19% - 29% of the sample firms have at least one political bureaucrat director.

5. Conclusions

The main stream on corporate governance research is how the board is structured and based on the typical agency theory. This study contributes to corporate governance research area by preliminary investigating the board qualification or who constitutes the board. The resource dependence theory suggests the matter of directors' knowledge and resourcefulness to determine the appointment of individual directors to the board.

The multiple diversity dimensions are applied in this study: gender, age, education, experience, industry expertise, accounting/finance expertise, study majors and political network. In the analysis, we analyse each diversity dimension for the whole board, the executive directors, non-executive directors and independent directors, in the full sample and two sub-samples of non-finance and finance firms. Our final sample covers 5,903 board seats with 4,773 directors in 600 firms (541 non-finance firms and 59 finance firms).

The percentage of female directors on board (approximately 20%) is consistent with other studies on the strong gender bias towards male, however this percentage of female directors on board in our sample is higher than the existing evidence in Turkey at 0.096% by Ararat et al. (2015), the UK & Norway at 10.5% and 15.7% by Grosvold et al. (2007), Denmark at 14.5% by Norden

(2006) and Singapore at 9.7% by Singapore Institute of Directors & Institute of Singapore Chartered Accountants (2014). About 80% of the sample firms have at least one female director. For the whole board, their average age is about 67 years old and most of them are older than 60 years old, excepting the mai firms (46 - 60 years old). Directors in Thai publicly listed firms are more senior than the evidence of 54 years old in Turkey by Ararat et al. (2015) and Denmark by Norden (2006). Also, this average age in our sample is more senior than Sitthipongpanich et al. (2012)'s evidence of 55 years for non-finance firms in 2001 – 2005. Executive directors have average age at 58 years old with the range of 32-78 for non-finance firms and 32-68 for finance firms. With regard to the tenure, the directors in our sample have been on board for about 8 years. The highest number of years serving on board is more than 20 years for all directorial positions- 28 years for executive directors, 29 years for non-executive directors and 21 years for independent directors. More than half of executive director have been served on board more than 6 years which are similar to executive directors in Singapore (Singapore Institute of Directors & Institute of Singapore Chartered Accountants, 2014). Most of the directors graduated Master Degree and their top three study majors are business administration, engineering and law. The exceptional case is of the independent directors of which the top three study majors are business administration, law and accounting. The percentage of independent directors with economics study background are about 10% and that with finance study background are about 5%. Most of the firms (94%) have at least one director having accounting/finance expertise or experience. The SET listed firms and the larger SET listed firms have more percentage of directors with accounting/finance expertise or experience than the mai listed firms and the smaller SET listed firms. At least one director has industry expertise in every firm. Among all of the board diversity index, the highest index of study major diversity shows the most differences or the most balanced in the board, whereas the lowest index of political diversity reflects the least political network in general.

These findings can be used by regulators in formulating recommendations or regulations related to desirable board characteristics, as well as be instructive the appropriateness of board monitoring vehicles. As the direction of corporate governance is to enhance board competencies, the future research in the area of board diversity can extend to explore how board attributes affect board process, as well as to examine the impact of board diversity or director qualifications on various aspects, for example firm performance, firm value, taking risk, and corporate strategic change, and to investigate the difference of board diversity between family and professional managed firms

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Table 1 Sample distribution

	Original sample	Final sample		
		Fin & Non-Fin	Non-Fin	Fin
Total number of observations	6731	5903	5285	618
Total number of directors	5390	4773	4354	576
Total number of executive directors	1919	1830	1677	153
Total number of non-executive directors	1896	1660	1448	212
Total number of independent directors	2577	2413	2160	253
Total number of firms	602	600	541	59
By market				
SET	484	483	424	59
mai	118	117	117	-
By industry				
Consumer Products	37	36	36	-
Agro & Food Industry	50	50	50	-
Financials	59	59	-	59
Industrials	79	79	79	-
MAI Industry	118	117	117	-
Property & Construction	90	90	90	-
Resources	37	37	37	-
Services	96	96	96	-
Technology	36	36	36	-

Table 2 Board diversity

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Gender diversity																																
% directors who are female	18%	14%	67%	0%	18%	14%	67%	0%	19%	20%	56%	0%	18%	14%	63%	0%	20%	20%	67%	0%	16%	13%	60%	0%	19%	17%	60%	0%	19%	14%	63%	0%
% companies with at least one female director	79%	100%	100%	0%	78%	100%	100%	0%	85%	100%	100%	0%	79%	100%	100%	0%	79%	100%	100%	0%	81%	100%	100%	0%	80%	100%	100%	0%	76%	100%	100%	0%
Gender Diversity Index	0.25	0.24	0.50	-	0.25	0.24	0.50	-	0.28	0.32	0.50	-	0.25	0.24	0.50	-	0.27	0.32	0.49	-	0.23	0.23	0.50	-	0.26	0.28	0.50	-	0.26	0.24	0.50	-
Age diversity																																
Average age of directors	67	67	96	32	67	67	96	32	67	67	85	48	67	68	96	32	65	66	88	32	68	67	96	41	67	68	96	43	67	68	91	32
% directors who are:																																
-Less than 30 years old	1%	0%	25%	0%	1%	0%	25%	0%	0%	0%	0%	0%	0%	0%	20%	0%	1%	0%	25%	0%	1%	0%	20%	0%	0%	0%	11%	0%	0%	0%	14%	0%
-31-45 years old	12%	10%	100%	0%	12%	10%	100%	0%	8%	0%	40%	0%	11%	9%	100%	0%	15%	13%	78%	0%	9%	7%	58%	0%	11%	10%	56%	0%	12%	11%	100%	0%
-46-60 years old	41%	40%	100%	0%	40%	38%	100%	0%	45%	44%	91%	0%	40%	38%	91%	0%	44%	42%	100%	0%	40%	40%	91%	0%	39%	38%	90%	0%	40%	36%	89%	0%
-Older than 60 years old	47%	47%	100%	0%	47%	47%	100%	0%	48%	45%	91%	9%	49%	50%	100%	0%	40%	43%	100%	0%	50%	50%	94%	0%	49%	50%	100%	10%	47%	45%	100%	0%
Age Diversity Index	0.49	0.50	0.70	-	0.49	0.50	0.70	-	0.47	0.49	0.65	0.17	0.48	0.50	0.70	-	0.51	0.54	0.69	-	0.48	0.50	0.70	0.12	0.50	0.50	0.68	-	0.47	0.49	0.67	-
Education diversity																																
% directors who have																																
-Below bachelor's degree	4%	0%	38%	0%	4%	0%	38%	0%	2%	0%	22%	0%	3%	0%	38%	0%	5%	0%	33%	0%	2%	0%	33%	0%	3%	0%	33%	0%	5%	0%	38%	0%
-Bachelor's degree	29%	29%	100%	0%	30%	29%	100%	0%	23%	22%	56%	0%	29%	29%	83%	0%	29%	28%	100%	0%	27%	25%	78%	0%	29%	29%	75%	0%	31%	30%	83%	0%
-Master's degree	53%	55%	100%	0%	52%	50%	100%	0%	62%	58%	100%	33%	54%	56%	100%	0%	52%	50%	100%	0%	53%	54%	100%	0%	55%	56%	100%	0%	52%	50%	100%	7%
-Doctoral degree	14%	11%	67%	0%	14%	11%	67%	0%	13%	11%	41%	0%	14%	11%	60%	0%	15%	13%	67%	0%	18%	15%	55%	0%	13%	11%	60%	0%	12%	11%	50%	0%
Education Diversity Index	0.51	0.56	0.74	-	0.52	0.56	0.74	-	0.49	0.52	0.72	-	0.51	0.55	0.74	-	0.51	0.56	0.73	-	0.52	0.56	0.74	-	0.51	0.53	0.72	-	0.51	0.56	0.73	-
Experience diversity																																
Tenure																																
Average Tenure	8	7	20	0	8	7	20	0	7	7	16	1	8	8	20	0	7	6	16	0	7	7	20	1	8	8	19	0	9	8	20	1
% direcotors who have tenure																																
-Less than 3 years	33%	29%	100%	0%	33%	29%	100%	0%	35%	33%	100%	0%	33%	27%	100%	0%	36%	30%	100%	0%	37%	31%	100%	0%	31%	25%	100%	0%	31%	27%	100%	0%
-4-6 years	19%	13%	100%	0%	19%	13%	100%	0%	18%	13%	70%	0%	18%	13%	100%	0%	23%	13%	91%	0%	21%	17%	100%	0%	17%	13%	75%	0%	14%	10%	100%	0%
-7-9 years	13%	9%	88%	0%	13%	9%	88%	0%	16%	9%	57%	0%	13%	9%	71%	0%	16%	0%	88%	0%	12%	9%	56%	0%	13%	9%	70%	0%	14%	10%	71%	0%
-More than 9 years	34%	33%	100%	0%	35%	33%	100%	0%	31%	28%	88%	0%	37%	37%	100%	0%	25%	21%	92%	0%	30%	25%	100%	0%	39%	38%	93%	0%	41%	38%	100%	0%
Tenure diversity index	0.50	0.57	0.74	-	0.49	0.57	0.74	-	0.53	0.57	0.74	-	0.51	0.57	0.74	-	0.47	0.49	0.73	-	0.50	0.57	0.74	-	0.53	0.58	0.74	-	0.49	0.54	0.73	-
Industry expertise																																
% directors who have direct industry expetise	37%	33%	100%	0%	38%	40%	100%	0%	45%	44%	92%	11%	40%	42%	100%	0%	41%	43%	100%	0%	39%	40%	92%	0%	43%	44%	100%	0%	38%	38%	89%	0%
% companies with at least one director having direct industry expetise	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Industry expetise diversity index	0.19	-	0.50	-	0.38	0.44	0.50	-	0.41	0.44	0.50	0.15	0.40	0.44	0.50	-	0.40	0.44	0.50	-	0.39	0.44	0.50	-	0.40	0.44	0.50	-	0.40	0.44	0.50	-
Accounting/finance expertise																																
% directors with acc/fin expertise or experience	30%	27%	100%	0%	27%	25%	100%	0%	59%	58%	100%	22%	32%	29%	100%	0%	24%	22%	100%	0%	34%	33%	100%	0%	32%	29%	92%	0%	28%	25%	89%	0%
% companies with at least one director with acc/fin expertise or experience	94%	100%	100%	0%	93%	100%	100%	0%	100%	100%	100%	100%	94%	100%	100%	0%	91%	100%	100%	0%	98%	100%	100%	0%	95%	100%	100%	0%	90%	100%	100%	0%
Accounting/finance expertise diversity index	0.35	0.38	0.50	-	0.34	0.38	0.50	-	0.41	0.46	0.50	-	0.36	0.40	0.50	-	0.31	0.35	0.50	-	0.37	0.41	0.50	-	0.36	0.41	0.50	-	0.33	0.38	0.50	-

Table 2 (continued)

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Study major diversity																																
% directors whose study major is																																
-Business Administration	32%	30%	75%	0%	32%	30%	75%	0%	35%	34%	63%	8%	32%	30%	75%	0%	33%	33%	63%	0%	30%	28%	75%	7%	32%	30%	64%	0%	32%	31%	73%	0%
-Finance	4%	0%	33%	0%	4%	0%	33%	0%	6%	4%	33%	0%	4%	0%	33%	0%	5%	0%	22%	0%	5%	0%	33%	0%	5%	0%	33%	0%	4%	0%	29%	0%
-Accounting	11%	9%	50%	0%	10%	9%	50%	0%	12%	12%	45%	0%	11%	10%	50%	0%	10%	9%	33%	0%	10%	10%	33%	0%	12%	11%	50%	0%	11%	8%	50%	0%
-Management	4%	0%	32%	0%	4%	0%	32%	0%	5%	0%	23%	0%	4%	0%	32%	0%	3%	0%	21%	0%	4%	0%	21%	0%	4%	0%	32%	0%	4%	0%	25%	0%
-Economic	8%	7%	50%	0%	8%	7%	50%	0%	11%	10%	30%	0%	8%	7%	50%	0%	7%	6%	40%	0%	9%	8%	40%	0%	8%	7%	50%	0%	8%	8%	30%	0%
-Law	13%	11%	57%	0%	12%	11%	57%	0%	13%	11%	50%	0%	13%	11%	57%	0%	12%	10%	45%	0%	12%	10%	40%	0%	13%	11%	57%	0%	14%	12%	50%	0%
-Arts	6%	5%	80%	0%	6%	5%	80%	0%	5%	0%	46%	0%	5%	4%	46%	0%	7%	7%	80%	0%	6%	5%	29%	0%	4%	0%	36%	0%	6%	0%	46%	0%
-Engineering	14%	11%	75%	0%	15%	13%	75%	0%	7%	6%	25%	0%	14%	11%	75%	0%	14%	12%	46%	0%	15%	11%	60%	0%	15%	11%	75%	0%	13%	10%	67%	0%
-Science	7%	6%	42%	0%	7%	6%	42%	0%	6%	5%	25%	0%	6%	6%	42%	0%	7%	6%	36%	0%	6%	6%	20%	0%	6%	5%	42%	0%	7%	6%	29%	0%
-Medicine	2%	0%	58%	0%	2%	0%	58%	0%	0%	0%	6%	0%	2%	0%	58%	0%	1%	0%	25%	0%	3%	0%	58%	0%	1%	0%	24%	0%	1%	0%	40%	0%
-Agriculture	0%	0%	17%	0%	0%	0%	17%	0%	0%	0%	8%	0%	0%	0%	17%	0%	1%	0%	15%	0%	0%	0%	13%	0%	0%	0%	13%	0%	0%	0%	17%	0%
Study major diversity index	0.75	0.77	0.88	0.32	0.75	0.77	0.88	0.32	0.75	0.77	0.87	0.56	0.75	0.78	0.88	0.41	0.75	0.76	0.86	0.32	0.77	0.79	0.87	0.41	0.75	0.76	0.87	0.41	0.74	0.76	0.88	0.45
Political diversity																																
% directors who are political bureaucrats	4%	0%	54%	0%	4%	0%	54%	0%	2%	0%	14%	0%	4%	0%	54%	0%	5%	0%	38%	0%	4%	0%	36%	0%	3%	0%	25%	0%	4%	0%	54%	0%
% companies with at least one directors being political bureaucrats	28%	0%	100%	0%	28%	0%	100%	0%	25%	0%	100%	0%	27%	0%	100%	0%	30%	0%	100%	0%	31%	0%	100%	0%	22%	0%	100%	0%	29%	0%	100%	0%
Political diversity index	0.06	-	0.50	-	0.06	-	0.50	-	0.04	-	0.24	-	0.06	-	0.50	-	0.07	-	0.47	-	0.07	-	0.46	-	0.05	-	0.38	-	0.07	-	0.50	-

Table 3 Executive director diversity

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Gender diversity																																
% directors who are female	20%	0%	100%	0%	20%	0%	100%	0%	23%	0%	100%	0%	19%	0%	100%	0%	23%	0%	100%	0%	14%	0%	100%	0%	21%	0%	100%	0%	22%	0%	100%	0%
% companies with at least one female director	45%	0%	100%	0%	45%	0%	100%	0%	43%	0%	100%	0%	45%	0%	100%	0%	48%	0%	100%	0%	39%	0%	100%	0%	46%	0%	100%	0%	48%	0%	100%	0%
Gender Diversity Index	0.18	-	0.50	-	0.18	-	0.50	-	0.15	-	0.50	-	0.17	-	0.50	-	0.21	-	0.50	-	0.14	-	0.50	-	0.18	-	0.50	-	0.18	-	0.50	-
Age diversity																																
Average age of directors	54	54	78	32	54	54	78	32	56	55	68	32	55	55	78	32	52	52	72	34	55	55	70	34	55	54	75	32	55	55	78	32
% directors who are:																																
-Less than 30 years old	1%	0%	50%	0%	1%	0%	50%	0%	0%	0%	0%	0%	1%	0%	50%	0%	1%	0%	33%	0%	1%	0%	50%	0%	1%	0%	50%	0%	1%	0%	50%	0%
-31-45 years old	17%	0%	100%	0%	18%	0%	100%	0%	9%	0%	100%	0%	16%	0%	100%	0%	24%	0%	100%	0%	14%	0%	100%	0%	16%	0%	100%	0%	17%	0%	100%	0%
-46-60 years old	54%	50%	100%	0%	53%	50%	100%	0%	66%	75%	100%	0%	54%	50%	100%	0%	53%	50%	100%	0%	60%	67%	100%	0%	51%	50%	100%	0%	54%	50%	100%	0%
-Older than 60 years old	27%	17%	100%	0%	28%	20%	100%	0%	25%	0%	100%	0%	29%	20%	100%	0%	22%	0%	100%	0%	25%	0%	100%	0%	32%	25%	100%	0%	28%	25%	100%	0%
Age Diversity Index	0.29	0.38	0.67	-	0.30	0.44	0.67	-	0.20	-	0.67	-	0.29	0.38	0.67	-	0.31	0.44	0.67	-	0.26	0.32	0.67	-	0.28	0.38	0.67	-	0.32	0.44	0.67	-
Education diversity																																
% directors who have																																
-Below bachelor's degree	5%	0%	100%	0%	5%	0%	100%	0%	2%	0%	50%	0%	4%	0%	100%	0%	6%	0%	67%	0%	3%	0%	67%	0%	5%	0%	100%	0%	5%	0%	50%	0%
-Bachelor's degree	32%	25%	100%	0%	33%	33%	100%	0%	22%	0%	100%	0%	31%	25%	100%	0%	36%	33%	100%	0%	31%	25%	100%	0%	29%	20%	100%	0%	35%	33%	100%	0%
-Master's degree	55%	50%	100%	0%	54%	50%	100%	0%	67%	67%	100%	0%	57%	60%	100%	0%	51%	50%	100%	0%	56%	60%	100%	0%	59%	67%	100%	0%	53%	50%	100%	0%
-Doctoral degree	8%	0%	100%	0%	8%	0%	100%	0%	9%	0%	100%	0%	8%	0%	100%	0%	7%	0%	100%	0%	11%	0%	100%	0%	7%	0%	100%	0%	7%	0%	100%	0%
Education Diversity Index	0.28	0.38	0.72	-	0.29	0.38	0.72	-	0.25	0.38	0.67	-	0.29	0.38	0.72	-	0.27	0.38	0.67	-	0.26	0.35	0.72	-	0.28	0.38	0.72	-	0.32	0.44	0.67	-
Experience diversity																																
Tenure																																
Average Tenure	9	8	28	0	9	8	28	0	8	7	24	1	9	8	28	0	9	8	28	0	8	6	24	0	10	9	28	0	10	9	27	0
% direcotors who have tenure																																
-Less than 3 years	29%	17%	100%	0%	30%	18%	100%	0%	25%	0%	100%	0%	30%	17%	100%	0%	26%	0%	100%	0%	37%	25%	100%	0%	25%	0%	100%	0%	29%	17%	100%	0%
-4-6 years	18%	0%	100%	0%	18%	0%	100%	0%	20%	0%	100%	0%	17%	0%	100%	0%	21%	0%	100%	0%	20%	0%	100%	0%	18%	0%	100%	0%	13%	0%	100%	0%
-7-9 years	11%	0%	100%	0%	10%	0%	100%	0%	20%	0%	100%	0%	11%	0%	100%	0%	13%	0%	100%	0%	10%	0%	100%	0%	10%	0%	100%	0%	12%	0%	100%	0%
-More than 9 years	42%	33%	100%	0%	43%	40%	100%	0%	35%	33%	100%	0%	42%	40%	100%	0%	40%	33%	100%	0%	33%	25%	100%	0%	47%	50%	100%	0%	45%	50%	100%	0%
Tenure diversity index	0.28	0.38	0.75	-	0.28	0.38	0.75	-	0.26	0.32	0.75	-	0.28	0.38	0.75	-	0.30	0.44	0.72	-	0.27	0.32	0.75	-	0.27	0.38	0.75	-	0.29	0.44	0.72	-
Industry expertise																																
% directors who have direct industry expetise	77%	100%	100%	0%	77%	100%	100%	0%	80%	100%	100%	0%	77%	100%	100%	0%	78%	100%	100%	0%	76%	100%	100%	0%	79%	100%	100%	0%	76%	100%	100%	0%
% companies with at least one director having direct industry expetise	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Industry expetise diversity index	0.14	-	0.50	-	0.14	-	0.50	-	0.14	-	0.50	-	0.14	-	0.50	-	0.15	-	0.50	-	0.11	-	0.50	-	0.13	-	0.50	-	0.18	-	0.50	-
Accounting/finance expertise																																
% directors with acc/fin expertise or experience	27%	15%	100%	0%	21%	0%	100%	0%	84%	100%	100%	0%	28%	17%	100%	0%	21%	0%	100%	0%	32%	20%	100%	0%	28%	20%	100%	0%	25%	0%	100%	0%
% companies with at least one director with acc/fin expertise or experience	51%	100%	100%	0%	46%	0%	100%	0%	97%	100%	100%	0%	52%	100%	100%	0%	44%	0%	100%	0%	56%	100%	100%	0%	52%	100%	100%	0%	48%	0%	100%	0%
Accounting/finance expertise diversity index	0.16	-	0.50	-	0.17	-	0.50	-	0.14	-	0.50	-	0.17	-	0.50	-	0.16	-	0.50	-	0.16	-	0.50	-	0.17	-	0.50	-	0.16	-	0.50	-

Table 3 (continued)

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Study major diversity																																
% directors whose study major is																																
-Business Administration	39%	40%	100%	0%	38%	38%	100%	0%	45%	50%	100%	0%	39%	38%	100%	0%	38%	40%	100%	0%	35%	33%	100%	0%	41%	40%	100%	0%	40%	40%	100%	0%
-Finance	4%	0%	100%	0%	4%	0%	100%	0%	7%	0%	100%	0%	4%	0%	100%	0%	4%	0%	50%	0%	6%	0%	100%	0%	4%	0%	100%	0%	2%	0%	50%	0%
-Accounting	8%	0%	100%	0%	9%	0%	100%	0%	5%	0%	50%	0%	8%	0%	100%	0%	9%	0%	100%	0%	6%	0%	100%	0%	9%	0%	100%	0%	9%	0%	100%	0%
-Management	4%	0%	100%	0%	3%	0%	100%	0%	6%	0%	100%	0%	4%	0%	100%	0%	2%	0%	50%	0%	5%	0%	100%	0%	4%	0%	100%	0%	4%	0%	100%	0%
-Economic	6%	0%	100%	0%	5%	0%	100%	0%	9%	0%	100%	0%	6%	0%	100%	0%	5%	0%	100%	0%	7%	0%	100%	0%	5%	0%	50%	0%	6%	0%	100%	0%
-Law	7%	0%	67%	0%	6%	0%	67%	0%	10%	0%	50%	0%	7%	0%	60%	0%	6%	0%	67%	0%	7%	0%	50%	0%	6%	0%	60%	0%	8%	0%	50%	0%
-Arts	6%	0%	100%	0%	6%	0%	100%	0%	5%	0%	50%	0%	5%	0%	100%	0%	10%	0%	100%	0%	4%	0%	40%	0%	4%	0%	100%	0%	7%	0%	71%	0%
-Engineering	17%	0%	100%	0%	19%	0%	100%	0%	6%	0%	50%	0%	18%	0%	100%	0%	15%	0%	100%	0%	18%	0%	100%	0%	19%	0%	100%	0%	16%	0%	100%	0%
-Seience	7%	0%	100%	0%	7%	0%	100%	0%	6%	0%	50%	0%	7%	0%	100%	0%	9%	0%	100%	0%	7%	0%	100%	0%	6%	0%	67%	0%	7%	0%	50%	0%
-Medicine	2%	0%	80%	0%	2%	0%	80%	0%	0%	0%	25%	0%	2%	0%	80%	0%	1%	0%	50%	0%	4%	0%	80%	0%	1%	0%	60%	0%	1%	0%	67%	0%
-Agriculture	1%	0%	100%	0%	1%	0%	100%	0%	0%	0%	20%	0%	1%	0%	100%	0%	0%	0%	29%	0%	1%	0%	50%	0%	1%	0%	100%	0%	1%	0%	50%	0%
Study major diversity index	0.51	0.56	0.85	-	0.51	0.56	0.84	-	0.50	0.53	0.85	-	0.51	0.57	0.85	-	0.51	0.50	0.84	-	0.51	0.60	0.85	-	0.49	0.56	0.84	-	0.52	0.57	0.84	-
Political diversity																																
% directors who are political bureaucrats	1%	0%	100%	0%	1%	0%	100%	0%	0%	0%	0%	0%	1%	0%	100%	0%	1%	0%	33%	0%	0%	0%	20%	0%	0%	0%	50%	0%	1%	0%	100%	0%
% companies with at least one directors being political bureaucrats	2%	0%	100%	0%	2%	0%	100%	0%	0%	0%	0%	0%	2%	0%	100%	0%	3%	0%	100%	0%	1%	0%	100%	0%	1%	0%	100%	0%	3%	0%	100%	0%
Political diversity index	0.01	-	0.50	-	0.01	-	0.50	-	-	-	-	-	0.01	-	0.50	-	0.01	-	0.44	-	0.00	-	0.32	-	0.00	-	0.50	-	0.01	-	0.44	-

Table 4 Non-executive director diversity

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Gender diversity																																
% directors who are female	18%	0%	100%	0%	22%	14%	100%	0%	15%	0%	100%	0%	18%	0%	100%	0%	18%	0%	100%	0%	18%	0%	100%	0%	18%	0%	100%	0%	19%	0%	100%	0%
% companies with at least one female director	42%	0%	100%	0%	54%	100%	100%	0%	42%	0%	100%	0%	43%	0%	100%	0%	37%	0%	100%	0%	48%	0%	100%	0%	42%	0%	100%	0%	41%	0%	100%	0%
Gender Diversity Index	0.15	-	0.50	-	0.19	-	0.50	-	0.15	-	0.50	-	0.16	-	0.50	-	0.13	-	0.50	-	0.17	-	0.50	-	0.15	-	0.50	-	0.16	-	0.50	-
Age diversity																																
Average age of directors	58	58	88	29	58	58	88	29	59	58	83	34	59	58	88	33	57	58	84	29	58	58	79	36	59	58	83	33	59	59	88	34
% directors who are:																																
-Less than 30 years old	1%	0%	100%	0%	1%	0%	100%	0%	0%	0%	0%	0%	0%	0%	33%	0%	2%	0%	100%	0%	0%	0%	25%	0%	0%	0%	33%	0%	0%	0%	17%	0%
-31-45 years old	14%	0%	100%	0%	14%	0%	100%	0%	12%	0%	100%	0%	14%	0%	100%	0%	15%	0%	100%	0%	14%	0%	100%	0%	13%	0%	100%	0%	14%	0%	100%	0%
-46-60 years old	42%	33%	100%	0%	42%	33%	100%	0%	41%	41%	100%	0%	42%	40%	100%	0%	38%	33%	100%	0%	42%	40%	100%	0%	43%	33%	100%	0%	43%	46%	100%	0%
-Older than 60 years old	44%	40%	100%	0%	44%	40%	100%	0%	47%	39%	100%	0%	44%	40%	100%	0%	45%	50%	100%	0%	43%	40%	100%	0%	44%	33%	100%	0%	44%	50%	100%	0%
Age Diversity Index	0.30	0.38	0.75	-	0.29	0.38	0.75	-	0.33	0.44	0.67	-	0.30	0.38	0.75	-	0.29	0.44	0.67	-	0.31	0.41	0.75	-	0.28	0.38	0.67	-	0.30	0.38	0.67	-
Education diversity																																
% directors who have																																
-Below bachelor's degree	6%	0%	100%	0%	7%	0%	100%	0%	1%	0%	25%	0%	5%	0%	100%	0%	10%	0%	100%	0%	3%	0%	67%	0%	6%	0%	100%	0%	7%	0%	60%	0%
-Bachelor's degree	31%	25%	100%	0%	31%	25%	100%	0%	25%	20%	100%	0%	31%	25%	100%	0%	29%	17%	100%	0%	32%	31%	100%	0%	33%	25%	100%	0%	27%	20%	100%	0%
-Master's degree	50%	50%	100%	0%	49%	50%	100%	0%	59%	67%	100%	0%	52%	50%	100%	0%	44%	50%	100%	0%	51%	50%	100%	0%	53%	50%	100%	0%	52%	50%	100%	0%
-Doctoral degree	13%	0%	100%	0%	13%	0%	100%	0%	15%	0%	100%	0%	12%	0%	100%	0%	17%	0%	100%	0%	14%	0%	100%	0%	9%	0%	100%	0%	13%	0%	100%	0%
Education Diversity Index	0.31	0.44	0.75	-	0.31	0.44	0.75	-	0.33	0.38	0.72	-	0.32	0.44	0.75	-	0.27	0.38	0.69	-	0.35	0.44	0.72	-	0.30	0.39	0.72	-	0.32	0.44	0.75	-
Experience diversity																																
Tenure																																
Average Tenure	8	7	29	0	8	7	29	0	8	7	24	1	9	8	29	0	7	5	26	0	7	5	24	0	9	8	24	0	9	8	29	1
% direcotors who have tenure																																
-Less than 3 years	36%	29%	100%	0%	35%	29%	100%	0%	39%	33%	100%	0%	36%	29%	100%	0%	36%	33%	100%	0%	40%	33%	100%	0%	33%	25%	100%	0%	34%	25%	100%	0%
-4-6 years	17%	0%	100%	0%	17%	0%	100%	0%	14%	0%	75%	0%	15%	0%	100%	0%	21%	0%	100%	0%	18%	0%	100%	0%	17%	0%	100%	0%	11%	0%	100%	0%
-7-9 years	12%	0%	100%	0%	11%	0%	100%	0%	13%	0%	100%	0%	11%	0%	100%	0%	15%	0%	100%	0%	10%	0%	100%	0%	9%	0%	100%	0%	13%	0%	100%	0%
-More than 9 years	36%	29%	100%	0%	36%	33%	100%	0%	35%	25%	100%	0%	38%	33%	100%	0%	28%	0%	100%	0%	31%	0%	100%	0%	41%	33%	100%	0%	42%	40%	100%	0%
Tenure diversity index	0.29	0.38	0.75	-	0.28	0.38	0.75	-	0.34	0.44	0.67	-	0.30	0.41	0.75	-	0.22	-	0.67	-	0.30	0.39	0.67	-	0.30	0.39	0.75	-	0.31	0.44	0.75	-
Industry expertise																																
% directors who have direct industry expetise	37%	33%	100%	0%	35%	29%	100%	0%	48%	50%	100%	0%	36%	33%	100%	0%	39%	33%	100%	0%	41%	33%	100%	0%	37%	29%	100%	0%	30%	23%	100%	0%
% companies with at least one director having direct industry expetise	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Industry expetise diversity index	0.19	-	0.50	-	0.18	-	0.50	-	0.29	0.38	0.50	-	0.19	-	0.50	-	0.19	-	0.50	-	0.24	0.32	0.50	-	0.17	-	0.50	-	0.18	-	0.50	-
Accounting/finance expertise																																
% directors with acc/fin expertise or experience	28%	20%	100%	0%	24%	14%	100%	0%	60%	67%	100%	0%	30%	25%	100%	0%	17%	0%	100%	0%	33%	33%	100%	0%	30%	25%	100%	0%	28%	23%	100%	0%
% companies with at least one director with acc/fin expertise or experience	55%	100%	100%	0%	52%	100%	100%	0%	87%	100%	100%	0%	60%	100%	100%	0%	35%	0%	100%	0%	69%	100%	100%	0%	57%	100%	100%	0%	55%	100%	100%	0%
Accounting/finance expertise diversity index	0.20	-	0.50	-	0.19	-	0.50	-	0.27	0.38	0.50	-	0.22	0.24	0.50	-	0.13	-	0.50	-	0.26	0.38	0.50	-	0.20	-	0.50	-	0.20	-	0.50	-

Table 4 (continued)

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Study major diversity																																
% directors whose study major is																																
-Business Administration	35%	33%	100%	0%	35%	33%	100%	0%	37%	33%	100%	0%	34%	33%	100%	0%	40%	33%	100%	0%	30%	28%	100%	0%	36%	33%	100%	0%	34%	33%	100%	0%
-Finance	4%	0%	50%	0%	4%	0%	50%	0%	6%	0%	33%	0%	4%	0%	50%	0%	4%	0%	50%	0%	5%	0%	50%	0%	4%	0%	50%	0%	4%	0%	50%	0%
-Accounting	7%	0%	100%	0%	6%	0%	100%	0%	11%	0%	50%	0%	7%	0%	100%	0%	6%	0%	100%	0%	10%	0%	100%	0%	6%	0%	67%	0%	6%	0%	50%	0%
-Management	4%	0%	100%	0%	4%	0%	100%	0%	4%	0%	29%	0%	4%	0%	50%	0%	5%	0%	100%	0%	5%	0%	33%	0%	4%	0%	40%	0%	4%	0%	50%	0%
-Economic	8%	0%	100%	0%	7%	0%	100%	0%	9%	0%	50%	0%	8%	0%	100%	0%	5%	0%	50%	0%	9%	0%	67%	0%	7%	0%	100%	0%	9%	0%	67%	0%
-Law	12%	0%	100%	0%	12%	0%	100%	0%	14%	10%	100%	0%	12%	0%	100%	0%	11%	0%	100%	0%	9%	0%	50%	0%	13%	0%	100%	0%	13%	0%	100%	0%
-Arts	6%	0%	100%	0%	6%	0%	100%	0%	7%	0%	100%	0%	6%	0%	100%	0%	6%	0%	100%	0%	7%	0%	100%	0%	4%	0%	100%	0%	7%	0%	100%	0%
-Engineering	16%	0%	100%	0%	17%	0%	100%	0%	6%	0%	100%	0%	16%	0%	100%	0%	16%	0%	100%	0%	16%	9%	100%	0%	16%	0%	100%	0%	16%	0%	100%	0%
-Science	6%	0%	100%	0%	6%	0%	100%	0%	5%	0%	50%	0%	6%	0%	100%	0%	7%	0%	100%	0%	5%	0%	50%	0%	6%	0%	100%	0%	6%	0%	50%	0%
-Medicine	2%	0%	100%	0%	2%	0%	100%	0%	0%	0%	10%	0%	2%	0%	100%	0%	1%	0%	50%	0%	3%	0%	63%	0%	2%	0%	100%	0%	0%	0%	20%	0%
-Agriculture	0%	0%	50%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	33%	0%	1%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Study major diversity index	0.53	0.63	0.85	-	0.53	0.63	0.85	-	0.58	0.67	0.83	-	0.55	0.63	0.85	-	0.47	0.56	0.82	-	0.63	0.69	0.85	-	0.51	0.63	0.83	-	0.52	0.62	0.83	-
Political diversity																																
% directors who are political bureaucrats	2%	0%	100%	0%	3%	0%	100%	0%	1%	0%	20%	0%	2%	0%	100%	0%	3%	0%	100%	0%	2%	0%	67%	0%	2%	0%	100%	0%	3%	0%	71%	0%
% companies with at least one directors being political bureaucrats	6%	0%	100%	0%	6%	0%	100%	0%	5%	0%	100%	0%	6%	0%	100%	0%	8%	0%	100%	0%	5%	0%	100%	0%	4%	0%	100%	0%	10%	0%	100%	0%
Political diversity index	0.02	-	0.50	-	0.02	-	0.50	-	0.02	-	0.32	-	0.02	-	0.50	-	0.03	-	0.50	-	0.02	-	0.50	-	0.01	-	0.44	-	0.04	-	0.50	-

Table 5 Independent director diversity

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Gender diversity																																
% directors who are female	16%	0%	100%	0%	16%	0%	100%	0%	19%	20%	67%	0%	16%	0%	100%	0%	17%	0%	100%	0%	15%	0%	80%	0%	16%	0%	100%	0%	16%	0%	83%	0%
% companies with at least one female director	47%	0%	100%	0%	46%	0%	100%	0%	63%	100%	100%	0%	47%	0%	100%	0%	48%	0%	100%	0%	47%	0%	100%	0%	49%	0%	100%	0%	45%	0%	100%	0%
Gender Diversity Index	0.19	-	0.50	-	0.18	-	0.50	-	0.25	0.32	0.48	-	0.19	-	0.50	-	0.20	-	0.50	-	0.18	-	0.50	-	0.20	-	0.50	-	0.19	-	0.50	-
Age diversity																																
Average age of directors	63	64	82	40	63	64	82	40	63	63	76	49	64	65	82	42	60	60	70	40	64	64	78	48	64	65	82	43	64	65	82	42
% directors who are:																																
-Less than 30 years old	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
-31-45 years old	5%	0%	100%	0%	5%	0%	100%	0%	2%	0%	33%	0%	5%	0%	100%	0%	7%	0%	100%	0%	3%	0%	50%	0%	5%	0%	67%	0%	6%	0%	100%	0%
-46-60 years old	31%	25%	100%	0%	31%	25%	100%	0%	31%	28%	100%	0%	28%	25%	100%	0%	41%	33%	100%	0%	29%	25%	100%	0%	27%	25%	100%	0%	29%	25%	100%	0%
-Older than 60 years old	64%	67%	100%	0%	64%	67%	100%	0%	67%	67%	100%	0%	67%	75%	100%	0%	51%	50%	100%	0%	68%	75%	100%	0%	68%	75%	100%	0%	65%	67%	100%	0%
Age Diversity Index	0.31	0.38	0.67	-	0.31	0.38	0.67	-	0.32	0.41	0.67	-	0.29	0.38	0.67	-	0.37	0.44	0.67	-	0.29	0.38	0.67	-	0.30	0.38	0.67	-	0.28	0.38	0.67	-
Education diversity																																
% directors who have																																
-Below bachelor's degree	1%	0%	50%	0%	1%	0%	50%	0%	1%	0%	25%	0%	1%	0%	50%	0%	0%	0%	33%	0%	1%	0%	33%	0%	1%	0%	33%	0%	3%	0%	50%	0%
-Bachelor's degree	25%	25%	100%	0%	25%	25%	100%	0%	21%	25%	75%	0%	25%	25%	100%	0%	22%	25%	100%	0%	21%	20%	80%	0%	27%	25%	100%	0%	28%	33%	100%	0%
-Master's degree	54%	50%	100%	0%	53%	50%	100%	0%	60%	60%	100%	0%	54%	50%	100%	0%	56%	50%	100%	0%	55%	50%	100%	0%	53%	50%	100%	0%	53%	57%	100%	0%
-Doctoral degree	20%	20%	100%	0%	20%	20%	100%	0%	17%	20%	75%	0%	20%	20%	100%	0%	22%	23%	100%	0%	24%	25%	100%	0%	19%	20%	100%	0%	16%	14%	80%	0%
Education Diversity Index	0.42	0.44	0.75	-	0.41	0.44	0.75	-	0.44	0.44	0.75	-	0.42	0.44	0.75	-	0.39	0.44	0.67	-	0.44	0.48	0.75	-	0.39	0.44	0.67	-	0.44	0.44	0.75	-
Experience diversity																																
Tenure																																
Average Tenure	6	6	21	0	6	6	21	0	7	6	18	1	7	7	21	0	5	4	13	0	6	6	16	1	7	7	21	0	7	8	20	0
% direcotors who have tenure																																
-Less than 3 years	35%	25%	100%	0%	35%	25%	100%	0%	35%	33%	100%	0%	33%	25%	100%	0%	41%	25%	100%	0%	37%	33%	100%	0%	32%	25%	100%	0%	31%	14%	100%	0%
-4-6 years	21%	0%	100%	0%	21%	0%	100%	0%	18%	0%	100%	0%	20%	0%	100%	0%	26%	0%	100%	0%	24%	20%	100%	0%	20%	0%	100%	0%	15%	0%	100%	0%
-7-9 years	17%	0%	100%	0%	17%	0%	100%	0%	18%	0%	67%	0%	16%	0%	100%	0%	20%	0%	100%	0%	15%	0%	100%	0%	17%	0%	100%	0%	17%	0%	100%	0%
-More than 9 years	27%	20%	100%	0%	27%	20%	100%	0%	30%	24%	100%	0%	31%	25%	100%	0%	13%	0%	100%	0%	24%	20%	100%	0%	32%	25%	100%	0%	37%	33%	100%	0%
Tenure diversity index	0.34	0.44	0.75	-	0.33	0.41	0.75	-	0.40	0.44	0.72	-	0.37	0.44	0.75	-	0.21	-	0.75	-	0.41	0.44	0.72	-	0.38	0.44	0.75	-	0.33	0.44	0.73	-
Industry expertise																																
% directors who have direct industry expetise	13%	0%	100%	0%	12%	0%	100%	0%	22%	20%	100%	0%	13%	0%	100%	0%	16%	0%	100%	0%	12%	0%	75%	0%	14%	0%	100%	0%	11%	0%	100%	0%
% companies with at least one director having direct industry expetise	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Industry expetise diversity index	0.15	-	0.50	-	0.14	-	0.50	-	0.22	0.32	0.50	-	0.15	-	0.50	-	0.16	-	0.50	-	0.17	-	0.50	-	0.15	-	0.50	-	0.13	-	0.50	-
Accounting/finance expertise																																
% directors with acc/fin expertise or experience	35%	33%	100%	0%	35%	33%	100%	0%	42%	33%	100%	0%	36%	33%	100%	0%	32%	33%	100%	0%	38%	33%	100%	0%	37%	33%	100%	0%	33%	33%	100%	0%
% companies with at least one director with acc/fin expertise or experience	82%	100%	100%	0%	81%	100%	100%	0%	88%	100%	100%	0%	83%	100%	100%	0%	77%	100%	100%	0%	91%	100%	100%	0%	83%	100%	100%	0%	75%	100%	100%	0%
Accounting/finance expertise diversity index	0.34	0.44	0.50	-	0.34	0.44	0.50	-	0.36	0.44	0.50	-	0.34	0.44	0.50	-	0.32	0.44	0.50	-	0.38	0.44	0.50	-	0.34	0.44	0.50	-	0.31	0.38	0.50	-

Table 5 (continued)

	Full sample				Non-Finance				Finance				SET				mai				Large SET PT: > 70				Medium SET PT: 30-70				Small SET PT: <30			
	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min	Mean	Median	Max	Min
Study major diversity																																
% directors whose study major is																																
-Business Administration	26%	25%	83%	0%	26%	25%	83%	0%	30%	31%	67%	0%	26%	25%	83%	0%	28%	29%	67%	0%	26%	25%	67%	0%	26%	25%	83%	0%	25%	25%	67%	0%
-Finance	5%	0%	57%	0%	5%	0%	57%	0%	5%	0%	33%	0%	5%	0%	57%	0%	5%	0%	33%	0%	4%	0%	40%	0%	4%	0%	50%	0%	6%	0%	57%	0%
-Accounting	14%	14%	75%	0%	14%	14%	75%	0%	16%	14%	67%	0%	15%	14%	75%	0%	13%	14%	67%	0%	14%	14%	50%	0%	16%	14%	75%	0%	14%	14%	67%	0%
-Management	3%	0%	33%	0%	3%	0%	33%	0%	4%	0%	22%	0%	3%	0%	33%	0%	3%	0%	33%	0%	3%	0%	25%	0%	4%	0%	33%	0%	3%	0%	33%	0%
-Economic	10%	0%	60%	0%	9%	0%	60%	0%	12%	13%	43%	0%	10%	0%	50%	0%	9%	0%	60%	0%	10%	0%	50%	0%	10%	0%	50%	0%	9%	0%	40%	0%
-Law	17%	17%	80%	0%	17%	17%	80%	0%	15%	13%	50%	0%	18%	17%	80%	0%	16%	14%	75%	0%	18%	17%	60%	0%	17%	14%	75%	0%	19%	17%	80%	0%
-Arts	5%	0%	100%	0%	5%	0%	100%	0%	5%	0%	67%	0%	5%	0%	100%	0%	4%	0%	67%	0%	6%	0%	50%	0%	5%	0%	100%	0%	4%	0%	67%	0%
-Engineering	12%	0%	67%	0%	12%	0%	67%	0%	7%	0%	40%	0%	11%	0%	67%	0%	12%	9%	67%	0%	10%	0%	50%	0%	12%	0%	67%	0%	12%	0%	67%	0%
-Seience	6%	0%	67%	0%	6%	0%	50%	0%	5%	0%	67%	0%	6%	0%	67%	0%	7%	0%	50%	0%	6%	0%	40%	0%	5%	0%	67%	0%	6%	0%	33%	0%
-Medicine	1%	0%	33%	0%	2%	0%	33%	0%	0%	0%	7%	0%	1%	0%	33%	0%	1%	0%	29%	0%	2%	0%	25%	0%	1%	0%	25%	0%	2%	0%	33%	0%
-Agriculture	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%	25%	0%	0%	0%	20%	0%	0%	0%	17%	0%
Study major diversity index	0.70	0.72	0.86	-	0.70	0.72	0.86	-	0.69	0.72	0.86	0.44	0.70	0.72	0.86	-	0.69	0.72	0.86	0.38	0.73	0.75	0.86	0.44	0.68	0.72	0.86	-	0.69	0.72	0.85	0.32
Political diversity																																
% directors who are political bureaucrats	7%	0%	67%	0%	7%	0%	67%	0%	5%	0%	33%	0%	6%	0%	67%	0%	8%	0%	67%	0%	7%	0%	50%	0%	5%	0%	43%	0%	7%	0%	67%	0%
% companies with at least one directors being political bureaucrats	23%	0%	100%	0%	23%	0%	100%	0%	20%	0%	100%	0%	23%	0%	100%	0%	24%	0%	100%	0%	29%	0%	100%	0%	19%	0%	100%	0%	22%	0%	100%	0%
Political diversity index	0.09	-	0.50	-	0.09	-	0.50	-	0.07	-	0.44	-	0.09	-	0.50	-	0.10	-	0.50	-	0.10	-	0.50	-	0.07	-	0.49	-	0.09	-	0.50	-