

Do Families Shape Corporate Board Structure in Emerging Economies?

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Abstract This study investigates whether there are significant differences in corporate board structure between family and non-family firms using listed companies in Bangladesh where family firms are the most dominant form of public companies. The results of this study suggest that family firms in Bangladesh adopt a distinctly different board structure from non-family firms. In particular, this study finds that family firms have a lower proportion of independent directors and foreign directors than non-family firms. Further, family firms have smaller boards than non-family firms. However, family firms are likely to have more CEO duality and female directors than their non-family counterparts. The findings of this study contribute to extant research on corporate board structure. The overall findings of this study imply that families of Bangladeshi firms have a different board structure compared to non-family firms, and the structure appears to promote a close locus of control for families that facilitates family dominance to prevail.

1 Introduction

Family firms are often built by founders who are strong and passionate about their business and subsequently, such firms in turn become closely linked with the family's reputation. Consequently, there is often a strong sense of ownership and connection to the business by the family shareholders (Lee 2006; Anderson et al. 2003). This can be expected to increase the family shareholders' need to dominate the governing board, particularly in public-listed firms, leading to preferences for selecting certain types of directors to work with (Anderson and Reeb

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2003; Anderson et al. 2003). Thus, it is likely that family directors in family firms would prefer boards that are not only effective in terms of maximising firm performance, but also ones that would be 'yielding' to their interests. Further, it can also be argued that with a strong family commitment to business prosperity, mimicking corporate governance mechanisms designed for non-family firms may, in fact, be inefficient for family firms, as they tend to assume a greater divide between owners and management (Barney and Hansen 1994). As such, these factors have the potential to drive systematic differences in the board structure of family versus non-family firms.

Prior studies based on agency theory suggest that board effectiveness is associated with higher independent directors (Agrawal and Knoeber 1996), smaller boards (Yermack 1996), CEO non-duality (Daily and Dalton 1993), female directors (Carter et al. 2003) and foreign directors (Oxelheim and Randoy 2003). Such board characteristics are seen to provide better monitoring and lower managerial entrenchment. On the other hand, resource dependency theory states that more effective boards tend to be comprised of more independent directors (Dyer 1989), larger boards (Jackling and Johl 2009) and CEO duality (Boyed 1995), as they offer more experience and professional knowledge, which, in turn, increase the board's ability to make better business decisions.

Family firms with strong motivation to keep their business successful are, therefore, likely to invest in more effective boards. A competing argument for how family firms may structure their boards is that they are also strongly driven to dominate decision-making. From an agency Type II¹ perspective, where family owners are more inclined to expropriate the interests of minority shareholders, family firms should have fewer independent directors, a smaller board, and more CEO duality to retain control of the firm. The findings of previous studies also suggest that family firms have different board structures from non-family firms (Bartholomeusz and Tanewski 2006; Setia-Atmaja et al. 2009; Navarro and Anson 2009). However, the prior findings are deficient in three ways. First, prior studies did not assess two important board characteristics, namely, female directors and foreign directors which are increasingly seen as being critical for improving board monitoring. Second, Most of the prior studies focus on developed market and ignore emerging economies. Third, prior studies also show mixed results in terms of the proportion of independent directors and board size between family and non-family firms. Thus the purpose of this chapter is to investigate whether there are significant differences in corporate board structure between family and non-family firms in emerging economies considering Bangladesh as an example.

Bangladesh is characterised by concentrated ownership and poor investor protection and a weak legal system. Corporate ownership in Bangladesh is largely concentrated in the hands of only a few people, and the top shareholders belong

¹ Conflict between controlling and non-controlling shareholders, whereas, controlling families may seek private benefits at the expense of non-controlling shareholders (Setia-Atmaja et al. 2009).

mostly to wealthy, high profile families. Good corporate governance practices in Bangladesh are yet to be developed (Siddiqui 2010), which gives Bangladeshi family firms strong impetus to dominate the public-listed firms. Furthermore the participation of females on Bangladeshi boards is a more recent phenomenon. Female directors, who are appointed on the basis of family ties, usually increase firms' voting power or dominance. In Bangladesh, foreign directors are also becoming increasingly common because of the growth in multinational ventures.

The results of this study indicate that family firms have a lower proportion of independent directors on boards than their non-family counterparts. The size of boards in family firms is smaller than in non-family firms. Family firms are more likely to have CEO duality. The result of this study also suggests that the proportion of female directors is higher in family firms than in non-family firms. This study finds that family firms have a lower proportion of foreign directors than their non-family counterparts. The overall results indicate that family firms utilise a different combination of governance mechanisms compared to their non-family counterparts.

The rest of the chapter is structured as follows. Section 2 gives an outline of the institutional background of Bangladesh. Section 3 reviews related literature and develops hypotheses. Section 4 describes research methodology. Section 5 presents empirical results, followed by further analysis in Sect. 6. Section 7 concludes the study.

2 Institutional Background of Bangladesh

Bangladesh carries the legacy of being a British colony for about 200 years. As a consequence, although the country inherited the British legal and political systems, there were hardly any private sector enterprises owned by Bengalis. The socialist ideology adopted by the Bangladesh government after its liberation in 1971 led to the nationalisation of the limited private sector owned industries. Subsequent governments, under pressure from donor agencies such as the World Bank, adopted a privatisation policy, that, due to lack of transparency, subsequently resulted in the transfer of government controlled industries to families (World Bank 2009). Consequently, Bangladesh's capital market has evolved to comprise a high proportion of family owned public-listed companies. For example, Imam and Malik (2007) report that on an average 33 % of the shares of listed companies in Bangladesh are held by top three shareholders, who are usually from the same family.

Like many other emerging economies,² some of the institutional features of Bangladesh include a less developed capital market (World Bank 2009), a least weak-form efficient stock market (Islam and Khaled 2005), absence of an active market for corporate control, a passive managerial labour market, and poor incentive contracts for management (Farooque et al. 2007). The Bangladesh corporate

² In terms of GDP, Bangladesh is the 44th largest economy in the world (IMF 2010).

sector is characterized by high ownership concentration, reluctance of the corporate sector to raise funds through the capital markets, lack of shareholder activism, high reliance on bank financing, and poor enforcement and monitoring of regulations (Siddiqui 2010).

Though Bangladesh has a market-based system like the Anglo American firms, it lacks an active market for corporate control, strong incentive contract for management and outside directors (Farooque et al. 2007). Legal and regulatory framework and its enforcement are relatively poor in Bangladesh which critically hinders the market's potential growth. Unlike other common-law economies of wealthy nations, it represents poor-quality law enforcement (Farooque et al. 2007). In the absence of market-based monitoring and control measures, ownership based monitoring and control is expected to function as a core governance mechanism.

In summary, the above institutional background and corporate governance regulatory oversight capabilities in Bangladesh do not appear to be strong, thus increasing the risk of conflict between the dominant and the minority shareholders (also often referred to as Type II agency problem). Because of strong family dominance, poor investor protection and weak legal system, the propensity for the presence of Type II agency problem is heightened in Bangladeshi family firms with the possibility of wealth expropriation by controlling families (Farooque et al. 2007). Given that minority shareholders rely on corporate board to monitor and control family's opportunism, a better understanding of the link between board structure and family ownership and control thus becomes critical for better informing and improving internal governance mechanism in family firms.

3 Literature Review and Development of Hypotheses

3.1 Board Independence

It is argued that a higher proportion of independent directors may reduce the conflict of interest between controlling shareholders and minority shareholders, and may make management more effective through better monitoring (Andres et al. 2005). Prior studies have provided evidence which suggests that independent directors add real value to a firm (Anderson and Reeb 2004; Jackling and Johl 2009). Recently, several authors have strongly argued for the importance of an active board with independent board members in family firms (e.g., Neubauer and Lank 1998; Huse 2000). However, families usually try to minimise the presence of independent directors (Anderson and Reeb 2004) since the families often seek to entrench themselves and extract private benefits from the firm. Ward (1991) has explained possible reasons for the lack of independent directors on many family firm boards. He argues that the main reasons are that owners tend to be afraid of losing control, do not believe that the independent directors understand the firm's

competitive situation, and are afraid of opening up to new, external ideas and viewpoints.

Setia-Atmaja et al. (2009) and Bartholomeusz and Tanewski (2006) document that family firms have lower levels of board independence compared to non-family firms. However, Navarro and Anson (2009) find that the proportion of independent directors does not differ between family and non-family firms. Anderson and Reeb (2004) argue that minority shareholders in family firms are best protected when there is a greater presence of independent directors on the board. Furthermore, family firms may have more independent directors on resource dependence argument. Independent directors of family firms can provide quality advice to the CEO and may also bring valuable experience and expertise to the board (Dalton et al. 1999).

Based on the above discussion, the first hypothesis of this study is as follows:

H1: The proportion of independent directors is significantly different between family and non-family firms.

3.2 Board Size

Previous empirical studies find that smaller boards enhance firm performance (Yermack 1996; Eisenberg et al. 1998). Family firms have smaller boards since individual responsibility tends to dissolve in larger groups (Ward 1991). It is argued that smaller boards in family firms facilitate communication and decision-making and are also likely to reduce the problem of free-riding. Navarro and Anson (2009) also find that family firm boards are relatively smaller than non-family firm boards. They suggest that families may be unwilling to increase the board size so as to retain control. Lane et al. (2006) suggest that smaller boards are more desirable for family firms, as larger boards inhibit full family participation and individual responsibility. Consistent with the resource dependence argument, Setia-Atmaja et al. (2009), on the other hand, contend that larger boards are affiliated with the controlling family. Larger boards may enhance performance because family members can draw on the others who may have valuable business experience, expertise, skills and social and professional networks which might add substantial business resources to the family firm.

Based on the above discussion, the second hypothesis of this study is as follows:

H2: Board size is significantly different between family and non-family firms.

3.3 CEO Duality

Having separate individuals holding the CEO and chairman positions enhances the monitoring ability of the board (Jensen 1993). Chen et al. (2005) and

Bartholomeusz and Tanewski (2006) find that CEO duality is much more likely in family firms compared to non-family firms. Within family firms, if the CEO and the chairman are the same person, or the person is a family member, the conflicts of interests may be less severe and duality may, in fact, ease family firm governance. Hence, CEO duality could be considered strength for a family firm (Navarro and Anson 2009). On the other hand, in family firms, CEO duality provides CEO entrenchment which leads to a decrease in board independence (Anderson and Reeb 2004) and increases the possibility of wealth expropriation by the families. However, a family CEO's experience, skills, expertise and powerful reputation are likely to provide valuable resources to the firm (Hillman and Dalziel 2003). Therefore, from a resource provision perspective, duality may be beneficial. The power exercised by families as large shareholders in family firms, means that duality is likely to be present to a larger extent within family firms.

Based on the above discussion, this study proposes the following hypothesis:

H3: Family firms have more CEO duality than non-family firms.

3.4 Female Directors

A more gender-diverse board is generally seen to enhance monitoring and improve board independence (Carter et al. 2003). Ruigrok et al. (2007) find evidence that there is a link between family firms and gender of the directors. They argue that females are often selected as board members based on family ties, and that they act as monitors and family delegates in family firms. Haalien and House (2005) report that there are more female directors in family firms than in non-family firms in Norway, and the number of women directors does not increase with board size. Moreover, resource dependence theorists argue that female directors facilitate the acquisition of critical resources for the organisation (Pfeffer 1972).

Though female participant at the board-level in developing countries may be recent phenomena, some companies appoint females as directors based on family ties. In most cases, the founder owners or directors appoint their wives and daughters to the boards, often with the motive of increasing family voting power or dominance (Uddin and Choudhury 2008). Therefore, it is predicted that family firms are more diverse in terms of gender than non-family firms.

Based on the above discussion the fourth hypothesis of this study is as follows:

H4: Family firms have more female directors than non-family firms.

3.5 Foreign Directors

Foreign directors are usually considered to be unaffiliated and independent of the firms. They can make the board of a family firm more effective and efficient.

However, families may seek to appoint fewer foreign directors on the board to avoid external monitors. Ruigrok et al. (2007) do not find any significant relationship between family affiliation and foreign directors. In Bangladesh, foreign directors are becoming increasingly common because of the growth in multinational ventures.

This study proposes that foreign directors can make the monitoring of the board more efficient. Their monitoring may obstruct family directors from becoming entrenched and protect the interests of general shareholders. Such directors can also improve the accountability process in the light of their foreign experience and knowledge. Therefore, family firms could be less likely to appoint foreign directors to avoid monitoring. It can also be argued that Bangladeshi family businesses may appoint them as token members just for a joint venture business. Sometimes their appointment might be made by the family firms to give signals to the market about the quality of governance.

On the basis of above discussion, this study proposes the following hypotheses:

H5: The proportion of foreign directors is significantly different between family and non-family firms.

4 Research Design

4.1 Data and Sample

The sample selection procedure is reported in Panel A of Table 1. The sample consists of all 155 non-financial companies listed with the Dhaka Stock Exchange (DSE) in Bangladesh from 2005 to 2009, producing a total sample of 775 sample year observations.³ Missing information has meant the study had to exclude 121 firm-year observations, yielding a final sample of 654 firm-year observations. The data for the analysis comes from multiple sources of secondary data. This study collects the financial data from the annual reports of the sample companies listed on the stock exchange. Stock price data are obtained from the DataStream database. The family ownership and other corporate governance data were hand-collected from the annual reports.

³ In 2005, there were 282 listed companies in the DSE. Out of this, 127 companies belong to the financial sector. These have been excluded since they are controlled by different regulations and are likely to have different disclosure requirements and governance structure.

Table 1 Sample description

Panel A: Sample selection				
			No. of firms	Firm-year observations
Number of firms			282	1,410
Less:				
Financial and utility companies			127	635
Companies without necessary information for corporate governance and family ownership data			14	121
Total			141	654
Panel B: Sample by family and non-family firms in sectors				
Sector	Family	Non-family	Total	Percent of family firms in industry
Cement	17	20	37	45.95
Ceramics	13	6	19	68.42
Engineering	62	40	102	60.78
Food	68	45	113	60.18
IT	11	17	28	39.29
Jute	9	5	14	64.29
Paper and printing	10	0	10	100.00
Miscellaneous	22	30	52	42.31
Pharmaceuticals	62	30	92	67.39
Service and real estate	12	14	26	46.15
Tanneries	9	16	25	36.00
Textiles	124	12	136	91.18
Total	419	235	654	64.07

4.2 Measuring Family Firms

Following prior studies we identify family firms as being (1) firms in which 20% of a firm's share or voting rights (either direct or indirect) are held by the same family block holders, and (2) at least one member of controlling family holds a managerial position such as board member, CEO or chairman (Bartholomeusz and Tanewski 2006; Setia-Atmaja et al. 2009; Cascino et al. 2010). Family relationships and shareholdings pattern were collected from prospectus of the listed companies, annual reports and company websites. We use a dummy variable and set equal to 1 if the firm is considered to be family firm and 0 otherwise.

From Panel B of Table 1, it is observed that family firms are present in 64.07 % of the total sample. The family firms are prevalent in various sectors such as cement (17), ceramics (13), engineering (62), food (68), information technology (11), jute (9), paper and printing (10), miscellaneous (22), pharmaceuticals (62), service and real estate (12), tanneries (9) and textiles (124). This study controls industry affiliations for the empirical analysis.

4.3 Model Specification

To test *H1* this study uses the following OLS regression equation:

$$\begin{aligned}
 BIND = & \alpha + \beta_1 FF + \beta_2 BSIZE + \beta_3 CEODU + \beta_4 FEMDIR + \beta_5 FORDIR \\
 & + \beta_6 BOWN + \beta_7 AGE + \beta_8 FSIZE + \beta_9 GROWTH + \beta_{10} LEV \\
 & + \beta_{11} INDDUM + \beta_{12} YEARDUM + \varepsilon
 \end{aligned}
 \tag{1}$$

The key variable family firm (FF) has already been defined in Sect. 4.2. This study defines board independence as the proportion of independent directors on the board, who do not have any material interest in the firm (*BIND*) (Anderson and Reeb 2004), whereas board size is measured based on the number of directors on the board (*BSIZE*) (Setia-Atmaja et al. 2009). It is expected that larger boards will have more independent directors. Consistent with the prior study, this study uses the CEO duality variable as a dummy variable, which is equal to 1 if the CEO and chairman are the same person, and 0 otherwise (Boyed 1995). Anderson and Reeb (2003) argue that CEO duality in a family firm increases entrenchment, resulting in lower board independence. Consistent with the prior research (Carter et al. 2003), female directors is measured as the proportion of female directors on the board (*FEMDIR*) and foreign directors is measured by the proportion of foreign directors on the board (*FORDIR*) (Oxelheim and Randoy 2003). It is argued that female and foreign directors improve monitoring and board effectiveness (Carter et al. 2003; Oxelheim and Randoy 2003). Therefore, female and foreign directors are expected to be positively related to board independence.

In the above equation this study also controls for several firm characteristics such as: Board ownership (*BOWN*) Consistent with prior studies, this study uses the board ownership (denoted as *BOWN*) variable as the percentage of directors' total shareholdings (excluding family directors' ownership) on the board (Anderson and Reeb 2003). Firm size (*FSIZE*): When firm size grows over time board independence increases (Boone et al. 2007). Firm size is measured as a natural logarithm of total assets (Yermack 1996). Firm age (*AGE*): Younger firms tend to have a lower proportion of independent directors than older firms because the scope and complexity are lower (Hermalin and Weisbach 1998). Age of the firm is calculated by taking the natural log of the number of years since the firm's inception (Anderson and Reeb 2003). Leverage (*LEV*): Setia-Atmaja et al. (2009) argue that leverage as a governance mechanism can be used as a substitute for board independence in family firms. Leverage is measured by taking the ratio of book value of total debt and book value of total assets (Anderson and Reeb 2003). Growth (*GROWTH*): Myers (1977) argues that agency costs can be relatively high for high-growth firms as managers have greater flexibility with regard to future investments. Therefore, high-growth firms may have a stronger presence of independent directors on their

boards. The growth of a firm is measured as the difference between the total assets of the prior year and the current year divided by prior year total assets.

To test *H2*, this study uses the following OLS regression equation:

$$\begin{aligned} BSIZE = & \alpha + \beta_1 FF + \beta_2 BIND + \beta_3 CEODU + \beta_4 FEMDIR + \beta_5 FORDIR \\ & + \beta_6 LAGPERF + \beta_7 AGE + \beta_8 FSIZE + \beta_9 GROWTH + \beta_{10} LEV \\ & + \beta_{11} INDDUM + \beta_{12} YERADUM + \varepsilon \end{aligned} \quad (2)$$

The definitions of family firm and all the board structure variables and control variables are similar to those in Eq. 1. According to the agency argument, greater board independence (*BIND*) will lead to smaller board size, whereas the resource dependence argument suggests that greater board independence will lead to larger board size. CEO duality (*CEODU*) enhances CEO power, which influences the appointment of directors who are less effective monitors, or assemble larger boards which are less effective monitors (Setia-Atmaja et al. 2009). On the other hand, a powerful CEO who is also a chairman of the board might be interested in keeping the board size smaller to enhance his/her control or influence over the board. Female and foreign directors improve monitoring and board effectiveness (Carter et al. 2003; Oxelheim and Randoy 2003). Furthermore, the resource dependence argument suggests that female and foreign directors are positively related to board size.

In the above equation this study controls for several firm characteristics such as Firm size (*FSIZE*), Firm age (*FAG*), Leverage (*LEV*) and Growth (*GROWTH*). Lag Performance (*LAGPERF*) has also been controlled for as Setia-Atmaja et al. (2009) reveal that board size may be affected by prior year performance. Lag performance is measured by ROA lagged 1 year.

To test *H3*, this study uses the following logit model.

$$\begin{aligned} CEODU = & \alpha + \beta_1 FF + \beta_2 BIND + \beta_3 BSIZE + \beta_4 FEMDIR + \beta_5 FORDIR \\ & + \beta_6 CEOTEN + \beta_7 AGE + \beta_8 FSIZE + \beta_9 GROWTH + \beta_{10} LEV \\ & + \beta_{11} INDDUM + \beta_{12} YEARDUM + \varepsilon \end{aligned} \quad (3)$$

The definitions of family firms and all the board structure variables and control variables are similar to those in Eqs. 1 and 2. Board independence (denoted as *BIND*) diminishes CEO power through monitoring. Therefore, board independence is expected to be negatively related to CEO duality. Board size is measured based on the number of directors on the board (*BSIZE*). It is expected that a larger board is negatively related to CEO duality (*CEODU*). Since female (*FEMDIR*) and foreign directors (*FORDIR*) improve monitoring and board effectiveness (Carter et al. 2003; Oxelheim and Randoy 2003), they are expected to be negatively related to CEO duality.

In the above equation this chapter controls for several firm characteristics such as Firm size (*FSIZE*), Firm age (*FAGE*), Leverage (*LEV*) and Growth (*GROWTH*). CEO tenure is also controlled since CEO tenure (*CEUTEN*) is likely to increase CEO power, it is expected that CEO tenure is positively related to CEO duality. CEO tenure (*CEUTEN*) is measured based on the number of years served by the current CEO.

To test *H4*, this study uses the following OLS regression equation:

$$\begin{aligned} FEMDIR = & \alpha + \beta_1 FF + \beta_2 BIND + \beta_3 BSIZE + \beta_4 CEODU + \beta_5 FORDIR \\ & + \beta_6 FEMCEO + \beta_7 AGE + \beta_8 FSIZE + \beta_9 GROWTH + \beta_{10} LEV \\ & + \beta_{11} INDDUM + \beta_{12} YEARDUM + \epsilon \end{aligned} \quad (4)$$

The definitions of family firms and all the board structure variables and control variables are similar to those in previous equations. Because of the monitoring argument, board independence (*BIND*) is expected to be positively related to female directors. It is expected that a powerful CEO will appoint fewer female directors to the board. Foreign members on a board signal a higher commitment to corporate monitoring and transparency (Oxelheim and Randoy 2003).

In the above equation this chapter controls for several firm characteristics such as Firm size (*FSIZE*), Firm age (*FAGE*), Leverage (*LEV*) and Growth (*GROWTH*). This equation has also controlled for female CEO (*FEMCEO*) which is a dummy variable which equals 1 if the CEO is a female and 0 otherwise. Female directors are tougher monitors (Adams and Ferreira 2009), therefore, a positive relationship is expected between female CEOs and female directors.

To test *H5*, this study uses the following OLS regression equation:

$$\begin{aligned} FORDIR = & \alpha + \beta_1 FF + \beta_2 BIND + \beta_3 BSIZE + \beta_4 CEODU + \beta_5 FEMDIR \\ & + \beta_6 FOROWN + \beta_7 AGE + \beta_8 FSIZE + \beta_9 GROWTH + \beta_{10} LEV \\ & + \beta_{11} INDDUM + \beta_{12} YEARDUM + \epsilon \end{aligned} \quad (5)$$

The definitions of family firms, all the board structure variables and control variables are similar to those in previous equations. Because of the monitoring argument, board independence (*BIND*) is expected to be positively related to foreign directors. Larger boards are likely to have more foreign directors. It is expected that a powerful CEO will appoint fewer foreign directors. Female directors are expected to be positively related to foreign directors, consistent with the monitoring argument.

In the above equation this chapter controls for several firm characteristics such as Firm size (*FSIZE*), Firm age (*FAGE*), Leverage (*LEV*) and Growth (*GROWTH*). This equation has also controlled for foreign ownership (*FOROWN*) as foreign ownership is expected to be positively related to foreign directors.

Table 2 Descriptive statistics

Panel A: Descriptive statistics for the full sample							
Variable	Mean	Median	Std. Dev.	Max	Min	Q1	Q3
FSIZE	8.696	8.684	0.659	10.345	6.656	8.304	9.042
LEV	0.749	0.604	0.789	0.892	0.036	0.429	0.808
AGE	22.989	23.000	10.940	53.000	4.000	13.000	29.000
BOWN	0.086	0.013	0.145	0.781	0.000	0.009	0.133
BSIZE	6.742	6.500	2.073	13.000	3.000	5.000	8.000
GROWTH	0.116	0.048	0.341	5.312	-0.523	-0.022	0.145
FOWN	0.290	0.319	0.219	0.835	0.200	0.262	0.481
CEODU	0.246	0.000	0.431	1.000	0.000	0.000	1.000
BIND	0.063	0.000	0.082	0.333	0.000	0.000	0.143
FORDIR	0.055	0.000	0.157	0.250	0.000	0.000	0.000
FEMDIR	0.169	0.143	0.183	0.800	0.000	0.000	0.286
Panel B: Difference of means and medians tests							
Variable	Mean difference test			Median difference test			
	FF	NFF	P value	FF	NFF	P value	
BSIZE	6.358	7.426	0.000***	6	8	0.000***	
BOWN	0.033	0.182	0.000***	0.013	0.032	0.000**	
GROWTH	1.727	0.349	0.100	0.045	0.05	0.314	
AGE	21.303	25.996	0.000***	22	26	0.014**	
FSIZE	8.650	8.778	0.279	8.651	8.704	0.514	
BIND	0.061	0.076	0.015**	0	0	–	
CEODU	0.297	0.152	0.000***	0	0	–	
FORDIR	0.030	0.102	0.000***	0	0	–	
FEMDIR	0.240	0.050	0.000***	0.2	0	0.000***	
Observations	419	235		419	235		

FF family firms, *NFF* non-family firms, *BIND* percentage of independent directors on board, *BSIZE* total number of directors on the board, *CEODU* equals to 1 if the CEO and chairman are the same person, and 0 otherwise, *FEMDIR* proportion of female directors on the board, *FORDIR* proportion of foreign directors on the board, *BOWN* percentage of directors' total shareholdings on the board, *AGE* the number of years since the firm's inception, *FSIZE* natural logarithm of total assets, *GROWTH* measured by asset growth ratio, *LEV* ratio of book value of total debt and book value of total assets

*Significant at 10 % level, **Significant at 5 % level, ***Significant at 1 % level

5 Results

5.1 Descriptive Statistics

Panel A of Table 2 presents the descriptive statistics for the full sample. The numbers of directors (*BSIZE*) averages around seven, 6.30 % are independent directors (*BIND*), 16.90 % are female directors (*FEMDIR*) and 5.50 % are foreign directors (*FORDIR*). With regard to the ownership structure, the board of directors (excluding family directors) (*BOWN*), and family members (*FOWN*), hold an average of 8.60 % and 29 % of shares, respectively. The average firm age (*AGE*)

is nearly 23 years, and the average firm size (FSIZE) is 8.70 (natural logarithm of total assets).

Panel B of Table 2 presents difference of means and medians tests for key variables between family and non-family firms. Family firms (FF) represent 64.07 % of the sample. Family firms have a significantly lower proportion of independent directors (BIND) (6.10 % versus 7.60 %), and smaller boards (6.36 versus 7.43 directors). However, family firms have significantly higher CEO duality (CEODU) (29.7 % versus 15.20 %), and more female directors (FEMDIR) (24 % versus 5.00 %). Family firms have a lower portion of foreign directors (FORDIR) than their non-family counterparts. The univariate analysis also indicates that other variables, such as firm age (AGE) and firm size (FSIZE), are significantly lower in family firms than in non-family firms. The difference of medians test also suggests that some of the variables are significantly different between family and non-family firms.

Table 3 presents the correlation matrix for some of the key variables in the analysis. The family firm (FF) variable has a negative correlation with board size (BSIZE) and foreign directors (FORDIR). CEO duality (CEODU) and female directors (FEMDIR) are positively correlated with family ownership (FOWN). In addition, consistent with prior literature, this study also finds negative correlations between family firm (FF) and firm age (AGE), and firm size (FSIZE).

5.2 Regression Results: Family Firms and Board Structure

In Table 4 this study reports the individual regression results of different hypothesised board structure variables. In Model 1 of Table 4, this study examines whether the proportion of independent directors (BIND) is different between family (FF) and non-family firms (NON-FF). The result shows that the coefficient of family firms (FF) is negative and significant ($\beta = -0.021$, $p < 0.05$). This supports *H1*. This implies that family firms have a lower proportion of independent directors (BIND) than non-family firms. This is consistent with the univariate analysis (see Table 2, Panel B). The boards in family firms are usually dominated by family members, who are more likely to minimise the presence of independent directors (Anderson and Reeb 2004) since they often seek to entrench themselves and extract private benefits from the firms. Among the board structure variables, this study finds that CEO duality (CEODU) and foreign directors (FORDIR) have negative and positive impacts on independent directors, respectively. In other words, CEO duality and independent directors are substitute monitoring mechanisms, whereas foreign directors and independent directors are complementary monitoring mechanisms. Board independence (BIND) is also positively related to firm age (AGE). Older firms have higher scope and face more complexity than younger firms; therefore, they appoint more independent directors (Hermalin and Weisbach 1998). Independent directors (BIND) have negative and significant relationships with leverage (LEV). In family firms, leverage allows controlling families to

Table 3 Correlation matrix

	FF	BIND	BFSIZE	CEODU	FEMDIR	FORDIR	AGE	FFSIZE	LEV	GROWTH
FF	1.0000									
BIND	-0.0875	1.0000								
BFSIZE	-0.2473***	0.0960	1.0000							
CEODU	0.1691***	-0.1477***	-0.1583***	1.0000						
FEMDIR	0.4815***	-0.0474	-0.1669***	0.0652	1.0000					
FORDIR	-0.2150***	0.1896***	0.1520***	0.0155	-0.1429***	1.0000				
AGE	-0.1645***	0.0638	-0.0247	0.0214	-0.0284	-0.1066	1.0000			
FFSIZE	-0.0933	0.0997	0.3023***	-0.0232	-0.1955***	0.2653***	-0.0182	1.0000		
LEV	-0.0649	-0.1223*	-0.0646	0.0500	-0.0816	-0.0862	0.2575***	-0.1789***	1.0000	
GROWTH	0.0512	0.0343	0.0298	0.0937	0.0181	0.1316**	-0.0715	0.1886***	-0.0520	1.0000

FF equals to 1 if the firm is considered to be family firm and 0 otherwise, *BIND* percentage of independent directors on board, *BFSIZE* total number of directors on the board, *CEODU* equals to 1 if the CEO and chairman are the same person, and 0 otherwise, *FEMDIR* proportion of female directors on the board, *FORDIR* proportion of foreign directors on the board, *BOWN* percentage of directors' total shareholdings on the board, *AGE* natural log of the number of years since the firm's inception, *FFSIZE* natural logarithm of total assets, *GROWTH* measured by asset growth ratio, *LEV* ratio of book value of total debt and book value of total assets

*Significant at 10 % level, **Significant at 5 % level, ***Significant at 1 % level

Table 4 Regression results: family firms and board structure

Variable	BIND (Model 1)	BFSIZE (Model 2)	CEODU (Logit-model 3)	FEMDIR (Model 4)	FORDIR (Model 5)
Constant	0.192*** (0.000)	-0.898 (0.436)	-6.263*** (0.000)	0.459*** (0.000)	-0.413*** (0.000)
FF	-0.021** (0.014)	-0.638*** (0.001)	0.389** (0.037)	0.152*** (0.000)	-0.092*** (0.000)
BIND	-	0.489 (0.647)	-2.794* (0.078)	-0.021 (0.792)	0.255*** (0.000)
BFSIZE	0.001 (0.582)	-	-0.185*** (0.000)	0.003 (0.356)	0.003 (0.245)
CEODU	-0.017* (0.089)	-0.519*** (0.004)	-	-0.021 (0.192)	0.021 (0.123)
FEMDIR	0.005 (0.767)	0.059 (0.905)	0.196 (0.765)	-	0.023 (0.524)
FORDIR	0.103*** (0.000)	-0.374 (0.486)	1.515 (0.125)	-0.034 (0.376)	-
BOWN	-0.051** (0.032)				
AGE	0.004** (0.046)	-0.014* (0.077)	0.013** (0.031)	0.001 (0.906)	-0.001** (0.049)
FSIZE	-0.009 (0.141)	0.943*** (0.000)	0.487 (0.238)	0.069*** (0.000)	0.062*** (0.000)
GROWTH	0.002 (0.823)	-0.219 (0.332)	0.351 (0.221)	0.014 (0.346)	0.027* (0.074)
LEV	-0.016*** (0.000)	-0.356** (0.023)	0.363 (0.197)	-0.002 (0.844)	0.027 (0.112)
LAGPERF	-	0.443*** (0.004)	-	-	-
CEOTEN	-	-	0.097*** (0.000)	-	
FEMCEO	-	-	-	0.221*** (0.000)	
FOROWN	-	-	-	-	0.212*** (0.000)
INDDUM	Included	Included	Included	Included	Included
YEARDUM	Included	Included	Included	Included	Included
Adjusted R ² /pseudo R ²	0.293	0.185	0.159	0.443	0.217
Observations	654	654	654	654	654

FF equals to 1 if the firm is considered to be family firm and 0 otherwise, *BIND* percentage of independent directors on board, *BFSIZE* total number of directors on the board, *CEODU* equal to 1 if the CEO and chairman are the same person, and 0 otherwise, *FEMDIR* proportion of female directors on the board, *FORDIR* proportion of foreign directors on the board, *BOWN* percentage of directors' total shareholdings on the board, *AGE* natural log of the number of years since the firm's inception, *FSIZE* natural logarithm of total assets, *GROWTH* measured by asset growth ratio, *LEV* ratio of book value of total debt and book value of total assets, *LAGPERF* ROA lagged 1 year, *CEOTEN* number of years served by the current CEO, *FEMCEO* equals 1 if the CEO is a female and 0 otherwise, *FOROWN* proportion of ownership by foreigners

P-values are shown in parentheses

*Significant at 10 % level, **Significant at 5 % level, ***Significant at 1 % level

control more resources without diluting their voting rights, and they are unwilling to appoint independent directors (Faccio et al. 2010).

In Model 2 of Table 4 this study examines whether board size (BSIZE) is different between family (FF) and non-family (NON-FF) firms. This study finds a negative significant coefficient of family firm ($\beta = -0.638$, $p < 0.01$). It suggests that family firms have smaller boards than non-family firms. This supports *H2*. Family firms may assemble smaller boards for more effective monitoring and to retain control (Bartholomeusz and Tanewski 2006; Navarro and Anson 2009). This study also finds that CEO duality (CEODU) has a negative impact on board size (BSIZE) implying that these variables are substitute monitoring mechanisms. Firm size (FSIZE) positively influences board size. This result suggests that larger firms have a greater volume of activities that requires more advice from experts than in smaller firms (Lehn et al. 2009). Consistent with prior study, this study also reveals that prior year performance (LAGPERF) affects the board size (Setia-Atmaja et al. 2009).

In Model 3 this study tests whether family firms (FF) have more CEO duality (CEODU) than non-family (NON_FF) firms. This study documents a positive significant coefficient of family firms (FF) ($\beta = 0.389$, $P < 0.05$), implying that family firms are more likely to have CEO duality (CEODU) than their non-family counterparts. This supports *H3*. It suggests that families want to retain control over the firms with little chance for external monitoring, which is consistent with the expropriation argument. Board size (BSIZE) is negatively related to CEO duality (CEODU) which, once again, suggests that these two variables are substitute monitoring mechanisms. CEO tenure (CEOTEN) is positively related to the likelihood of CEO duality (CEODU). This study also finds a positive and significant relationship between firm age (AGE) and likelihood of CEO duality (CEODU). Older firms suffer from organisational complexity which motivates them to adopt CEO duality (Faleye 2007).

In Model 4 this study examines whether family firms (FF) have more female directors (FEMDIR) than non-family (NON_FF) firms. This study finds a positive significant coefficient of family firms (FF) ($\beta = 0.152$, $p < 0.01$), implying that family firms (FF) have more female directors (FEMDIR) than non-family firms. This also supports *H4*. In family firms female board members are often selected based on family ties, and they also act as family delegates (Ruigrok et al. 2007). Sometimes they are appointed to the board to ensure family dominance. The result of this study also supports the findings of Uddin and Choudhury (2008). This study also documents that larger firms have a higher proportion of female directors (FEMDIR). The result also suggests that firms appoint female directors (FEMDIR) when they have female CEOs (FEMCEO).

In Model 5 the study investigates whether there is a significant difference between the proportion of foreign directors (FORDIR) in family firms (FF) and non-family (NON-FF) firms. This study finds the coefficient of family firm variable (FF) ($\beta = -0.092$, $P < 0.01$) to be negative and significant. This supports *H5*. The result suggests that family firms (FF) appoint fewer foreign directors (FORDIR) than non-family counterparts because they want to avoid external monitoring. This

result is also consistent with the expropriation argument. This study also finds that foreign ownership (FOROWN) is positively related to foreign directors (FORDIR). Firm size (FSIZE) and growth (GROWTH) have significant and positive impacts on foreign directors (FORDIR). Larger firms appoint more foreign directors for their expertise. Moreover, to enhance reputation in the financial market, high-growth firms may appoint more foreign directors (Oxelheim and Randoy 2003). Younger firms appoint foreign directors to create an appropriate image by signalling quality corporate governance to the market participants.

5.3 *Endogeneity of Board Structure Variables*

The hypothesised board structure variables used in this study are dependent on each other, that is, they are endogenous. The variables also depend on other variables such as firm size (FSIZE), firm age (AGE), and growth (GROWTH). These other variables are treated as exogenous variables. Consistent with the previous studies, this study develops a system of equations to address the issue of endogeneity (Agrawal and Knoeber 1996; Mark and Li 2001). To estimate the system of simultaneous equations empirically, this study employs the three-stage least squares (3SLS) procedure.

The endogenous variables in the system of equations are board independence (BIND), board size (BSIZE), CEO duality (CEODU),⁴ female directors (FEMDIR) and foreign directors (FORDIR). There are five equations in the system of equations for the five board structure variables. In order to satisfy the order condition the equations in the system are identified, each equation must exclude at least four of the exogenous variables since each equation includes four endogenous variables as regressors (Kennedy 1998). The specification of Eqs. 1, 2, 3, 4, and 5 is partly driven by the need to satisfy this order condition. Although, as far as possible, this study relies on theory or prior research to determine the exogenous variables to be included or excluded in each of the equations, it should be recognised that the results obtained may be sensitive to what exogenous variables are included.

Table 5 reports the estimations of Eqs. 1, 2, 3, 4, and 5 using the three-stage least squares (3SLS) regression. Table 5 (second row) presents coefficients on family firm (FF) for each equation. In the CEO duality (CEODU) and female director (FEMDIR) equations, family firm (FF) variables have positive significant coefficients. It implies that family firms (FF) are more likely to have CEO duality (CEODU) than non-family (NON-FF) firms, and that these firms have a higher proportion of female directors (FEMDIR) than their non-family counterparts. Thus,

⁴The 3SLS procedure included in standard statistical software packages assumes that all the dependent variables are continuous. Therefore this study does not use the logit specification for CEO duality because OLS is generally robust to the inclusion of limited dependent variables (Greene 1997).

Table 5 Regression results: family firms and board structure (3 SLS)

Variable	BIND (Model 1)	BFSIZE (Model 2)	CEODU (Logit-model 3)	FEMDIR (Model 4)	FORDIR (Model 5)
Constant	0.059 (0.236)	-0.975 (0.394)	-0.063 (0.797)	0.464*** (0.000)	-0.017 (0.703)
FF	-0.013** (0.044)	-0.607*** (0.001)	0.041** (0.035)	0.072*** (0.000)	-0.062* (0.064)
BIND	-	0.378** (0.010)	-1.441*** (0.000)	-0.024 (0.716)	0.204*** (0.000)
BFSIZE	0.003 (0.125)	-	-0.023** (0.005)	0.003 (0.317)	0.001 (0.579)
CEODU	-0.026*** (0.000)	-0.530*** (0.002)	-	-0.027 (0.214)	0.022** (0.033)
FEMDIR	0.007 (0.746)	0.032 (0.925)	-0.025 (0.812)	-	0.028 (0.326)
FORDIR	0.098*** (0.000)	-0.541 (0.299)	0.370 (0.139)	-0.003 (0.317)	-
BOWN	-0.032 (0.132)				
AGE	0.001* (0.009)	-0.015* (0.059)	0.001 (0.875)	0.001 (0.889)	-0.002*** (0.000)
FSIZE	-0.001 (0.241)	0.939*** (0.000)	0.038 (0.180)	0.049*** (0.000)	0.005** (0.042)
GROWTH	0.008 (0.363)	-0.221 (0.317)	0.070** (0.040)	0.019 (0.230)	0.031** (0.013)
LEV	-0.017*** (0.000)	-0.329** (0.029)	0.005 (0.818)	-0.002 (0.838)	0.012 (0.172)
LAGPERF	-	0.434*** (0.000)	-	-	-
CEOTEN	-	-	0.013*** (0.000)	-	
FEMCEO	-	-	-	0.219*** (0.000)	
FOROWN	-	-	-	-	0.621*** (0.000)
INDDUM	Included	Included	Included	Included	Included
YEARDUM	Included	Included	Included	Included	Included
Adjusted R ²	0.193	0.143	0.117	0.398	0.179
Observations	654	654	654	654	654

FF equals to 1 if the firm is considered to be family firm and 0 otherwise, *BIND* percentage of independent directors on board, *BFSIZE* total number of directors on the board, *CEODU* equals to 1 if the CEO and chairman are the same person, and 0 otherwise, *FEMDIR* proportion of female directors on the board, *FORDIR* the proportion of foreign directors on the board, *BOWN* percentage of directors' total shareholdings on the board, *AGE* natural log of the number of years since the firm's inception, *FSIZE* natural logarithm of total assets, *GROWTH* measured by asset growth ratio, *LEV* ratio of book value of total debt and book value of total assets, *LAGPERF* ROA lagged 1 year, *CEOTEN* number of years served by the current CEO, *FEMCEO* equals 1 if the CEO is a female and 0 otherwise, *FOROWN* proportion of ownership by foreigners

P-values are shown in parentheses

*Significant at 10 % level, **Significant at 5 % level, ***Significant at 1 % level

the results provide support to *H3* and *H4*. While both the regression results (with and without addressing the issue of endogeneity) are statistically significant, the magnitude of the family firm (FF) coefficients generated by the 3SLS on CEO duality (CEODU) and female directors (FEMDIR), is smaller. In the board independence (BIND), board size (BSIZE) and foreign director (FORDIR) equations, family firm (FF) variables have negative significant coefficients. It implies that family firms have fewer independent directors, smaller boards and fewer foreign directors than non-family firms. Thus, the results provide support to *H1*, *H2* and *H5*. The magnitude of family firm coefficients generated by 3 SLS is greater than the same coefficients generated by OLS regression.

6 Further Analysis

6.1 *Alternative Measure of Firm Performance*

This study uses an alternative definition of family firms (FF). In particular, this study defines a family firm as one where family members hold at least 50 % of a firm's shares (voting rights) (Ang et al. 2000). Furthermore, this study requires that at least one member of the controlling family holds a managerial position (i.e., board member, CEO or chairman). This study uses a dummy variable to identify the family firms which is set equal to 1 if the firm is considered to be a family firm, and 0 otherwise. When this study uses this alternative definition, the number of family firms is reduced to 171. This study runs all the regressions that report for in Tables 4 and 5 and finds that results are consistent with the main findings.

6.2 *Alternative Measure of Board Independence*

This study examines whether the results are sensitive to the fact that the proportion of independent directors in family firms is, by sample construction, lower than in non-family firms. This study constructs a measure of board independence that excludes family board members in the denominator (i.e., board size) and estimates Eqs. 1, 2, 3, 4, and 5 using this measure. The results are not different from the earlier analyses.

7 Chapter Summary

This study examines whether the board structures of family and non-family firms are significantly different in an emerging economy setting, taking Bangladesh as a case. Unlike most western economies, family firms are the most dominant form of

listed public companies in Bangladesh. Given that minority shareholders rely on corporate boards to monitor and control family's opportunism, the research issue addressed in regard to the relationship between board structure and family firm is particularly interesting.

The results suggest that family firms adopt distinctly different board structures from their non-family counterparts. Family firms have a lower proportion of independent directors than non-family firms. This is consistent with Anderson and Reeb (2004) who argue that families usually try to minimise the presence of independent directors since they often seek to entrench themselves and extract private benefits from the firm.

This study finds that board size is smaller in family firms than in non-family firms. This result suggests that family members want to maintain control of the firms and, therefore, prefer a smaller board. The analysis shows that family firms are more likely to have CEO duality, implying that CEO duality in family firms provides greater opportunities for managerial entrenchment and expropriation from minority shareholders.

This study also finds that family firms have more female directors than non-family firms. In Bangladeshi family firms, female board members are usually appointed based on family ties. In most of the cases the founders appoint their daughters and wives on the boards. Their appointment is also consistent with the contention of an increase in family dominance. The results of this study also suggest that family firms have fewer foreign directors than non-family firms. Family firms want to avoid external monitoring and, therefore, prefer not to have foreign members on the board.

Appendix

Variable	Measurement and operationalization	Data source
FF	Equals to 1 if the firm is considered to be family firm and 0 otherwise	Annual report
BIND	Percentage of independent directors on board	Annual report
BSIZE	Total number of directors on the board	Annual report
CEODU	Equals to 1 if the CEO and chairman are the same person, and 0 otherwise	Annual report
FEMDIR	Proportion of female directors on the board	Annual report
FORDIR	Proportion of foreign directors on the board	Annual report
BOWN	Percentage of directors' total shareholdings (excluding family directors' ownership) on the board	Annual report
AGE	Natural log of the number of years since the firm's inception	Annual report
FSIZE	Natural logarithm of total assets	Annual report
GROWTH	Difference between the total assets of the prior year and the current year divided by prior year total assets	Annual report
LEV	Ratio of book value of total debt and book value of total assets	Annual report
LAGPERF	ROA lagged 1 year	Annual report

(continued)

Variable	Measurement and operationalization	Data source
CEOTEN	Number of years served by the current CEO	Annual report
FEMCEO	Equals 1 if the CEO is a female and 0 otherwise	Annual report
FOROWN	Proportion of ownership by foreigners	Annual report

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