Corporate Systems in Emerging Market Economies

A Comparison of China and Eastern Europe

Ichiro Iwasaki, Xinxin Ma, and Satoshi Mizobata

First published 2025

ISBN: 9781032983547 (hbk)
ISBN: 9781032983592 (pbk)
ISBN: 9781003598213 (ebk)

Chapter 6

Women's Social Empowerment and its Impact on Board Structures

DOI: 10.4324/9781003598213-10

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

6 Women's Social Empowerment and its Impact on Board Structures

6.1 Introduction

The United Nations Sustainable Development Goals (SDGs) have turned into a global movement involving countless nations around the world. The United Nations (UN) resolution entitled *Transforming Our World: The 2030 Agenda for Sustainable Development* (United Nations, 2015), which is a basic document on SDGs and lays out a total of 17 policy targets to be achieved by 2030, was unanimously adopted by the UN General Assembly in September 2015. Many of these 17 goals are closely related to corporate activities. Not surprisingly, quite a few internationally renowned multinational enterprises and listed companies take SDGs seriously and address them as part of their corporate social responsibility (CSR), taking specific actions to support the SDGs (Castillo-Villar, 2020; López-Concepción et al., 2022).

Goal 5 of the 17 SDGs is specifically dedicated to achieving gender equality and empowering all women and girls and is regarded as one of the most important issues to be addressed by corporations. A gender gap in the workplace, if not properly addressed, can pose a future risk to business. With growing interest in gender gap issues, we are seeing a gradual increase in the number of leading firms compiling CSR reports that address gender gaps by providing indicators of working conditions and the promotion of female employees and setting out action policies and plans aimed at bridging the workplace gender gap. In the meantime, SDGs are increasingly gaining momentum, with the UN and national governments stepping up their efforts to support SDG actions (Díaz-Iglesias et al., 2021).

It is common knowledge among economists and business scholars that firms transform their organizations to synchronize their internal systems with the business environment to adapt to the evolving socioeconomic conditions around them. Addressing SDGs is just another example of such corporate endeavors. Heightened social and political commitment to gender equality and the resulting substantial improvements in women's socioeconomic status may strongly encourage companies to correct gender disparities at work. This hypothesis is arguably best substantiated in a study of board gender diversity. Active debates on the topic of board gender composition began to emerge in

DOI: 10.4324/9781003598213-10

international journals in the 1990s (Burke, 1994), almost two decades before the UN first advocated SDGs in 2015. Spurred by the recent growing interest in the issue of gender disparities within firms, board gender composition has now become a topic of great interest for many researchers. In fact, our search of EconLit using the keyword "board gender diversity" retrieved over 241 studies, with 97 of them containing this term in the title.[1]

Despite the growing body of research on board gender diversity, however, only a few studies, including that of Terjesen and Singh (2008), which compared 43 countries in the world, and a US study by Thams et al. (2018), have focused on how socioeconomic conditions of women may affect corporate efforts to promote gender diversity among board members. Terjesen and Singh (2008) found that the ratio of women in the parliament and top management was positively correlated with, and women's wage level relative to that of men was negatively correlated with, the proportion of female directors on a board. While Thams et al. (2018) scrutinized how women's employment rates, education levels, average age, men's attitudes toward women at home, availability of public funding for abortion, and the presence of legal restrictions against gender discrimination affected the proportion of female directors on the boards of firms headquartered in each studied state; they found that women's average age, public funding for abortion, and anti-gender-discrimination laws exert positive effects on the gender composition of boards.

Griffin et al. (2021) examine how the presence of women on a board influenced corporate innovation practices in 45 countries worldwide. At the same time, this paper also presents an estimation of models that incorporate state-level variables as determinants of the proportion of female directors on a board, including a variable that captures whether a country's main stock exchange or securities laws stipulate a minimum quota for the percentage or number of female directors on a board, gender gap index, female labor market participation, and the masculinity of corporate culture. It reports statistically significant and positive estimates for the legal gender quota and female labor market participation and statistically significant and negative estimates for the gender gap index and masculinity. In this sense, Griffin et al. (2021) have made a contribution to the literature that is comparable to that of Terjesen and Singh (2008) and Thams et al. (2018).

The above findings are the only empirical evidence we have so far regarding the impact of women's social empowerment on board gender diversity; unfortunately, there are no similar studies that cover emerging market countries that are faced with greater gender equality issues than advanced nations but at the same time are improving their position in the world economy, hence, playing a key role in the global resolution of Goal 5 of the aforementioned SDGs (World Economic Forum, 2021). In order to fill this scientific gap, this chapter will conduct an empirical analysis that combines state-level data on women's social empowerment in 21 emerging market countries and firm-level data on 52,473 listed and unlisted firms. To this end, we will propose a series of hypotheses regarding the effect of women's socioeconomic

status on board gender diversity in emerging markets that are applicable to other world regions and countries. We will also take on a new empirical perspective not addressed by the aforementioned previous studies, whereby we will estimate how women's social empowerment influences board gender diversity as measured by the probability of appointing a female to the board, the number of female directors, and the Blau index. We will also examine whether a comparison between female inside directors and female outside directors or between listed and unlisted firms reveals any asymmetries.

The results of our empirical analysis strongly suggest that firms in countries that have successfully improved women's socioeconomic status in terms of human development levels, educational levels, labor force participation, and income levels tend to have more gender-diverse boards. We also found that women's social empowerment urges firms to appoint more women to their boards, not just inside but also outside the firm. Our hypothesis that improved socioeconomic status of women has a greater effect on board gender diversity among listed than unlisted firms was supported by our empirical analysis concerning female outside directors. At the same time, this chapter produced an unexpected result that firms in countries with higher female political representation tended to have less gender-diverse boards. All of these empirical results were repeatedly reproduced even in estimations that accounted for various sample constraints or the sample selection bias that may exist between firms with and without female directors.

The remainder of this chapter is organized as follows. The next section presents our hypotheses regarding the effect of women's social empowerment on board gender diversity. Section 6.3 provides an overview of the data used for our empirical analysis and describes the methodology of hypothesis testing. Section 6.4 reports estimation results, and Section 6.5 tests their statistical robustness. Finally, Section 6.6 summarizes the major findings and outlines our conclusions.

6.2 Hypothesis Development

The presentation of hypotheses regarding the effect of women's social empowerment on board gender diversity requires consideration of the socioeconomic background of each country or region to be analyzed. This chapter targets economies in Central and Eastern Europe, Southeastern Europe, the former Soviet Union countries, and China that used to operate (or are still operating) under a socialist regime and have followed a development path quite different from that of developed economies. The socioeconomic circumstances surrounding gender diversity issues in post-communist emerging markets are quite unique. With this in mind, this section provides an overview of the gender situation in these countries and presents our hypotheses.

Under the socialist economic system, women's liberation and full equality between men and women were the prevailing ideology in emerging markets, where the depletion of the male labor force due to the two world wars was

also enough to encourage women to claim their place in society (Iwasaki and Ma, 2020; Iwasaki and Satogami, 2023). In fact, all socialist countries have ratified the UN's Convention on the Elimination of All Forms of Discrimination against Women (adopted in 1979 and instituted in 1981), which requires state parties to pursue full equality between men and women through the legal system. Although gender policies in these countries are criticized as being propaganda of the authoritarian regime under one-party rule, they did produce real results by liberating these countries from patriarchalism (Ghodsee and Mead, 2018). Gender policies in the socialist countries have actually encouraged women to step up to find their place in society, especially through participation in the workforce, which pushed up women's labor force participation rates to levels comparable to those in advanced capitalist nations. The gender policies in socialist countries have also promoted women's official inclusion in state institutions, improved women's education levels, and contributed to the development of social services to support working women.

Indisputably, however, the reality of the former socialist emerging markets has also brought about outcomes that cannot be described as ideal. In fact, their society remains saddled with a sense of male superiority, and the mobilization of women for economic development under such circumstances has only resulted in women bearing the "double burden" of working and taking care of the family. Although quota systems have been introduced to recruit women into political positions, the persistence of the traditional notion of men as principal breadwinners has restricted the sectors in which women are employed, with gender gaps in wages remaining significant (Lane, 1985; Mertus, 1998; ILO, 2013; Ghodsee and Mead, 2018; Iwasaki and Satogami, 2023).

The transition to the market economy and democracy that began in the early 1990s did not fundamentally improve these socioeconomic conditions, but it did bring about significant changes. Public measures to eliminate gender discrimination and the legalization of gender equality in many of these emerging markets have accelerated women's social empowerment, contributing to significantly narrowing gender gaps in education, labor, income, and political representation. As a result, firms operating in these countries have been compelled to pay greater attention to women as workers, consumers, and members of society (Mertus, 1998). East European countries that have joined the European Union (EU) had to work hard to establish legal systems to comply with the rules on advancing women's empowerment set out by the EU and other international organizations, as doing so was one of the prerequisites for joining the EU (Fodor, 2013). These emerging market countries also eagerly welcomed direct investment from advanced nations, which brought in Western-style management practices and CSR awareness that helped promote women's well-being and the correction of gender inequality (Brzozowski, 2013; Ouedraogo et al., 2018). The globalization of the world economy, as characterized by the acceptance of international rules like the UN Global Compact, has also had a positive effect on the social advancement of women in emerging markets.

As described above, although emerging market firms were inevitably affected by the gender policies of their governments and by trends in the international community, they also saw the emergence of their own organizational motives to advance their female employees' positions (ILO, 2018; Grant Thornton, 2020). Actually, emerging market firms have every reason to employ highly educated and strongly motivated women and assign highly qualified individuals to important positions. Furthermore, the expanding consumption behavior of women can have a considerable impact on the sales of the firm's products and services. Most importantly, women's increased presence in politics means that women can influence the direction of national policies that govern the business environment.[2]

As the primary task of the board of directors is to set a basic direction for human resource policies, product development, and marketing strategies while taking into account the complex socioeconomic conditions surrounding the firm, the increasing presence of women in the society inevitably affects the composition of the board (De Jonge, 2014). With more and more women playing an increasingly important role in every socioeconomic sphere, boards will be faced with greater opportunities and needs to consider important management issues concerning the recruitment and treatment of female employees and the integration of a female perspective into the development, distribution, and sales of their products and services. When the weight of such issues bearing on a firm's management crosses a certain threshold, and especially because these issues reflect the policies of the national government, boards that were previously dominated by men will have no choice but to open their doors to women and invite more women to be members. Hence we expect that:

Hypothesis H1: *The improvement of women's socioeconomic status contributes to greater board gender diversity.*

Women's social empowerment is accompanied by a narrowing of the gender gap in human capital. Attaining higher levels of education and skills allows women to improve their relative value and positions within the firm, giving them greater leverage to outperform their male counterparts and secure advancement opportunities. For instance, according to a study of Russia, the improvement of women's educational levels has contributed to narrowing the gender gaps in wages and promotions, particularly among high-income groups (Atencio and Posadas, 2015). Women's progress into higher positions in the society and politics has the potential to positively impact how women's personnel issues are handled in labor union meetings and other labor negotiations. The same can be said about the appointment of board members. It does not take much imagination to realize that women's empowerment in the social and political spheres gives female employees greater opportunities to be appointed as inside directors.

At the same time, as the market economy takes root, firms begin to attract and recruit highly qualified individuals from outside the company for

management and executive positions, which helps to increase the presence of outside directors on boards (Iwasaki, 2008). Female empowerment through marketization also means more opportunities for women to play important roles in the various settings that surround firms. As more and more women make their way into various spheres of society, they are sure to find their place as various kinds of professionals, including lawyers, accountants, management consultants, asset management experts, university faculty members, and even company executives. They constitute a valuable pool of prospective independent directors for firms. In addition, for the same reason as described earlier, a firm having clients, business partners, parent companies, and affiliates that have high representations of women in senior management is definitely more likely to have women dispatched from these firms to serve on its board as outside directors. Based on the above arguments, we predict that:

> **Hypothesis H2:** *The improvement of women's socioeconomic status encourages firms to not only promote their female employees to board positions but also recruit women from outside the firm to serve on its board.*

Listed firms are often referred to as the "public institutions of society." This term refers to a noble responsibility of firms to meet the expectations of society as a whole and provide tangible and intangible values that are useful to the society, instead of just fulfilling their social responsibility to their stakeholders (i.e., shareholders, clients, employees, etc.) in the narrow sense of the term. As the call for corporate management to strengthen CSR and SDG engagement grows louder globally, an increasing number of listed firms in emerging markets are trying to position themselves as public institutions of society by adopting CSR action plans as part of their investor relations activities.

Tackling gender disparity issues is one of the most important agendas of CSR activities; it is highlighted in many of the CSR reports published by listed firms not only in developed economies but also in emerging markets. Female representation in board and management positions has been attracting attention as an important indicator of a reduced workplace gender gap. Although no emerging market has introduced a quota system that requires listed firms to appoint a certain number of women to board positions like the ones adopted by Norway and Italy, it makes it all the more important for individual firms to voluntarily commit themselves to solving gender issues. Firms should also be aware that environmental issues are not the only concern of investors making environmental, social, and governance (ESG) investment decisions. Those investors also expect firms to address social issues including gender disparity, and listed firms tend to come under increased scrutiny from investors. The Moscow Stock Exchange, for example, has joined an international project that advocates for women's empowerment, and firms applying for listing on the Exchange are heavily scrutinized as per the gender criteria.[3]

As promotors of gender equality, listed firms thus face greater attention and pressure from various stakeholders, including the government and citizens. These social conditions do not necessarily constitute a one-sided burden for the managers of listed firms. Expressing a positive management attitude and taking actual steps toward the recruitment of female board members can be a powerful means of enhancing the social reputation and value of the firm, possibly even allowing it to attract highly skilled female workers to join its workforce. Thus, we propose to test the following hypothesis:

> **Hypothesis H3:** *The improvement of women's socioeconomic status has a greater effect on board gender diversity of listed than unlisted firms.*

Women's social empowerment is not the only factor determining the board gender diversity of firms in a given country. Previous studies have rather focused primarily on firm-level attributes. Specifically, they focused on board composition (i.e., the number of directors, their independence from management, and the person holding the chairman's seat), ownership concentration and the presence of the state and foreign investors as corporate owners, the firm's size and number of years in operation, as well as financial performance (i.e., profitability, financial risk, and solvency).

The empirical results provided by studies of firms in advanced nations can be roughly summarized as follows: Larger boards offer women greater opportunity to serve on them, and boards with greater independence tend to be more willing to accept female board members (Carter et al., 2003; Tanaka, 2019; Griffin et al., 2021). While major shareholders and states are often reluctant to promote board diversity, foreign investors from nations that are enthusiastic about promoting gender equality are more likely to actively advocate for the hiring of female directors (Kang et al., 2007; Morikawa, 2016; Mensi-Klarbach et al., 2021). Large, long-established firms are more likely to take a positive managerial stance toward the promotion of board gender diversity to deal with the complexity of firm management (Hillman and Cannella, 2007; Thams et al., 2018). Because women have a strong tendency to avoid risks, they typically prefer to serve on boards of firms with stable financial performance in terms of profitability, financial risk, and solvency (De Cabo et al., 2012; Sila et al., 2016; Frye and Pham, 2018).

6.3 Data and Methodology

Our empirical analysis uses mainly two types of data: firm-level and state-level data. We collected firm-level data from Orbis, a company database compiled by Bureau van Dijk as done in previous chapters. From Orbis, we extracted data on listed and unlisted companies operating in the following 21 nations as of the first quarter of 2020, for which information on the gender and job title of all directors was available from the database: five Central European nations (the Czech Republic, Hungary, Poland, Slovakia, and Slovenia), five

Eastern European and Baltic nations (Bulgaria, Romania, Estonia, Latvia, and Lithuania), six Southern European nations (Croatia, Serbia, Albania, Montenegro, North Macedonia, and Bosnia and Herzegovina), four former Soviet Union nations (Moldova, Belarus, Ukraine, and Russia), and China. The final sample was comprised of a total of 52,473 firms, of which 2,862 were listed and 49,611 were unlisted. Apart from the data regarding female directors, we also extracted data on ownership structure, firm size, firm age, firm performance, and other defining attributes of board composition from Orbis, as described in detail in the section that follows.

State-level data were collected from the Gender Development Index (GDI) Database compiled and published by the United Nations Development Programme (UNDP). The UNDP collects and summarizes various types of data that allow it to measure women's human development index (HDI) and social empowerment as well as gender disparity in HDI and social empowerment and compare them across various countries and regions in the world. A typical example of such data is the GDI, which measures gender disparities in the level of achievement in human development for 189 countries and world regions, including the above-mentioned 21 emerging markets. In addition to the GDI, we also obtained four other indicators from the database pertaining to women's educational level, labor force participation, income level, and political representation. These four indicators are: female secondary education completion rate, female labor force participation rate, female relative income level, and women's representation in parliament. Values for these indicators were available for all 21 emerging markets. We estimated the female relative income levels based on gender-specific gross national income data provided by the GDI database.

To examine the three hypotheses proposed in the previous section, we estimate the following regression equation taking board gender diversity of the *i*-th firm (*gender_diversity*) as the dependent variable and women's social empowerment in the *j*-th country in which the *i*-th firm operates (*female_empowerment*), listed/unlisted firm attribute of the *i*-th firm (*listed*, *unlisted*), and other attributes of the *i*-th firm that can affect its board gender diversity (*firm_level_control*) as the independent variables.

$$\begin{aligned} gender\_diversity_i = {} & \mu + \beta \cdot female\_empowerment_j \cdot listed_i \\ & + \gamma \cdot female\_empowerment_j \cdot unlisted_i \\ & + \sum_{l=1}^{n} \delta_l \cdot firm\_level\_control_{i,l} + \theta_k + \varepsilon_i, \end{aligned} \tag{1}$$

where μ is a constant term, β, γ, and δ are the parameters to be estimated, θ is the fixed effects for the k-th industry to which the i-th firm belongs, and ε is a disturbance term.

Nine variables, consisting of (a) firm with a female director(s), (b) number of female directors, and (c) the Blau index of gender diversity (*BI*, calculated by the following equation) for each one of the three director types (i.e., all directors, inside directors, and outside directors), are introduced on the left-hand side of Eq. (1).

$$BI = 1 - \sum_{i=1}^{n} P_i^2 = 1 - \left(female\_share^2 + male\_share^2 \right), \tag{2}$$

where P_i is the share of category i in the total, *female_share* is the share of female directors, and *male_share* is the share of male directors. As shown on the rightmost side of equation (2), the Blau index fluctuates between a minimum of 0.0 and a maximum of 0.5 because our analysis deals with two categories (i.e., male and female directors).

Taking into account the characteristics of these dependent variables, different estimators are applied to estimate the regression equation based on which dependent variable is introduced on its left-hand side. Namely, a generalized linear regression estimator for binomial distribution is used for the model with the variable of firm with a female director(s),[4] a Poisson estimator for the model with number of female directors, and a Tobit estimator with 0.0 and 0.5 as the lower and upper thresholds for the model with *BI*. We test the statistical significance of regression coefficients by using heteroscedasticity-consistent robust standard errors. Furthermore, to examine Hypothesis H3, we test the null hypothesis that the effect of female social empowerment variables on listed firms (the second term on the right-hand side of Eq. (1)) equals the effect of those on unlisted firms (the third term on the right-hand side of Eq. (1)) by using the Wald test or the F test, depending on the type of estimator.

Based on the discussion in the previous section, 11 firm-level variables are employed to be estimated simultaneously with the state-level female social empowerment variables that are the key variables in the hypothesis testing. These 11 firm-level variables are: (a) board size, which signifies the total number of board members; (b) CEO duality dummy variable, which takes the value of one when the same person concurrently holds both the CEO and board chairperson positions in a firm; (c) outside directorship, calculated as the ratio of outside/independent directors to all directors; (d) ownership concentration, as proxied by the average ownership share per shareholder/member; (e) state ownership dummy variable; (f) foreign ownership dummy variable; (g) firm size, as measured by the log of total assets in Euros; (h) firm age, as measured by the number of years in operation; (i) profitability, calculated as the profit margin on total sales; (j) financial risk, expressed in terms of return on assets (ROA) volatility; and (k) solvency, as measured by the solvency ratio.

These are all predetermined variables for the dependent variables. Specifically, all nine types of board gender diversity variables capture circumstances

during the first quarter of 2020, whereas 13 variables—including the five types of female social empowerment variables and board size, CEO duality, outside directorship, ownership concentration, state ownership, foreign ownership, firm size, and firm age—capture situations during 2019, and three variables—profitability, financial risk, and solvency—capture situations during the period from 2017 to 2019. In this way, we can avoid endogeneity arising from simultaneous causality between dependent and independent variables. We controlled for the industry-level fixed effects θ by combining a total of 13 industry dummy variables that used the manufacturing industry as a reference category.[5]

Table 6.1 shows the statistics representing the composition of the firm sample, board gender diversity, and female social empowerment by country, with summary statistics for all 21 emerging markets given in the rightmost column. As shown in Column (a) of the table, 52,473 sample firms operate in a wide range of industrial sectors, with their size ranging from small to large.

According to Column (b), although the share of firms with at least one female director turned out to be 49.37% for the entire sample from the 21 emerging markets, substantial differences could be observed across countries, ranging from 19.55% in China to 86.79% in Moldova. We also looked at different appointment routes and confirmed that the share of firms with internally appointed female directors and that of firms with externally appointed female directors are 35.74% and 22.77%, respectively, for the entire sample from the 21 emerging markets. These indicators also vary substantially across emerging markets. The average numbers of all female directors, female inside directors, and female outside directors per sample firm turned out to be 1.26, 0.57, and 0.69, respectively. These values among the 21 countries range from 0.41 to 4.44, 0.02 to 1.75, and 0.10 to 3.82, respectively. As shown in Table 6.1 for reference, the average share of female directors in the pool of all directors across all sample firms is 20.98%, whereas the average shares of female directors in the pools of inside and outside directors are 21.10% and 27.84%, respectively.[6] Furthermore, the BI calculated with Eq. (2) is 0.19 for all directors, 0.16 for internal directors, and 0.07 for outside directors. Just like the variables of firms with a female director(s) and number of female directors, board gender diversity variables measured by the *BI* also differ substantially across the 21 countries, ranging from 0.05 to 0.33 for all directors, 0.05 to 0.35 for internal directors, and 0.00 to 0.16 for external directors.

Column (c) of Table 6.1 shows that the averages of the five female social empowerment variables across the 21 emerging markets are 0.99 for female human development, 89.6% for female education level, 46.4% for female labor participation, 66.0 for female relative income, and 25.2% for presence of women in parliament, with the coefficient of variation of each variable being 0.027, 0.148, 0.089, 0.105, and 0.270, respectively. This reveals particularly remarkable variations in female education level and presence of women in parliament across these countries.

Figure 6.1 shows scatterplots that represent the relationships between the female social empowerment variables and board gender diversity variables

Table 6.1 Composition of sample firms, board gender diversity, and female social empowerment by country and in all 21 emerging markets

	Central Europe					*Eastern Europe and the Baltics*					*Southern Europe*						*Former Soviet Union*				*Asia*	
	Czech Republic	*Hungary*	*Poland*	*Slovakia*	*Slovenia*	*Bulgaria*	*Romania*	*Estonia*	*Latvia*	*Lithuania*	*Croatia*	*Serbia*	*Albania*	*Montenegro*	*North Macedonia*	*Bosnia–Herzegovina*	*Moldova*	*Belarus*	*Ukraine*	*Russia*	*China*	*All 21 emerging markets*
(a) Composition of sample firms																						
Total number	3,294	3,802	7,497	2,016	911	2,722	5,480	859	1,191	1,186	1,347	1,042	45	83	82	511	106	4	638	8,536	11,121	52,473
Listed companies	11	12	362	29	22	67	151	9	9	22	105	139	0	33	63	122	70	0	168	448	1,020	2,862
Unlisted companies	3,283	3,790	7,135	1,987	889	2,655	5,329	850	1,182	1,164	1,242	903	45	50	19	389	36	4	470	8,088	10,101	49,611
Agriculture, forestry, and fisheries	258	113	72	116	8	88	156	16	50	31	33	41	0	0	3	5	3	0	56	704	58	1,811
Mining and manufacturing	1,601	1,639	3,569	864	434	1,080	2,431	379	365	419	555	504	3	23	48	230	53	0	373	3,840	8,423	26,833
Construction	182	194	464	114	55	240	479	50	118	163	118	84	6	6	3	51	15	0	20	590	169	3,121
Services	1,253	1,856	3,392	922	414	1,314	2,414	414	658	573	641	413	36	54	28	225	35	4	189	3,402	2,471	20,708
Companies with less than 100 employees	1,583	1,810	2,710	948	432	1,260	2,269	467	610	470	520	400	1	30	22	166	38	0	160	2,518	1,611	18,025
Companies with 100–499 employees	1,435	1,587	3,775	860	387	1,176	2,567	342	497	588	655	490	28	41	44	279	55	1	273	4,089	5,185	24,354
Companies with 500–999 employees	164	217	551	138	56	171	372	34	56	77	98	76	11	9	10	33	6	2	82	1,009	1,823	4,995

(*Continued*)

Table 6.1 (Continued)

	Central Europe					*Eastern Europe and the Baltics*					*Southern Europe*						*Former Soviet Union*				*Asia*	
	Czech Republic	*Hungary*	*Poland*	*Slovakia*	*Slovenia*	*Bulgaria*	*Romania*	*Estonia*	*Latvia*	*Lithuania*	*Croatia*	*Serbia*	*Albania*	*Montenegro*	*North Macedonia*	*Bosnia–Herzegovina*	*Moldova*	*Belarus*	*Ukraine*	*Russia*	*China*	*All 21 emerging markets*
Companies with 1000 or more employees	112	188	461	70	36	115	272	16	28	51	74	76	5	3	6	33	7	1	123	920	2,502	5,099
(b) Board gender diversity[a]																						
Firm with a female director(s)	34.12	61.18	46.33	39.04	54.45	53.23	59.73	57.16	55.16	63.32	59.02	60.65	48.89	71.08	76.83	45.99	86.79	75.00	70.85	76.75	19.55	49.37
Firm with an inside female director(s)	17.55	48.26	44.48	21.48	40.83	33.65	56.86	1.16	0.92	61.13	25.84	33.11	28.89	27.71	36.59	29.75	41.51	75.00	68.03	51.79	14.50	35.74
Firm with an outside/ independent female director(s)	16.88	23.36	3.80	18.15	18.22	26.60	10.58	56.93	55.08	4.81	44.10	38.96	31.11	57.83	63.41	23.48	73.58	25.00	7.37	49.32	14.47	22.77
Number of female directors	0.95	1.51	0.70	1.11	1.29	1.01	1.26	2.89	2.28	1.01	1.68	2.10	1.16	2.11	3.63	1.05	4.44	2.50	0.91	2.51	0.41	1.26
Number of inside female directors	0.20	0.87	0.58	0.26	0.55	0.41	1.10	0.04	0.02	0.83	0.30	0.49	0.40	0.40	0.55	0.39	0.62	1.75	0.82	0.96	0.20	0.57
Number of outside female directors	0.75	0.64	0.12	0.85	0.74	0.60	0.16	2.85	2.25	0.17	1.38	1.61	0.76	1.71	3.09	0.66	3.82	0.75	0.10	1.56	0.21	0.69

(*Continued*)

Table 6.1 (Continued)

	Central Europe					*Eastern Europe and the Baltics*					*Southern Europe*						*Former Soviet Union*				*Asia*	
	Czech Republic	*Hungary*	*Poland*	*Slovakia*	*Slovenia*	*Bulgaria*	*Romania*	*Estonia*	*Latvia*	*Lithuania*	*Croatia*	*Serbia*	*Albania*	*Montenegro*	*North Macedonia*	*Bosnia–Herzegovina*	*Moldova*	*Belarus*	*Ukraine*	*Russia*	*China*	*All 21 emerging markets*
Proportion of female directors	14.43	23.75	20.59	17.14	21.40	24.30	26.13	20.07	24.07	29.62	21.62	23.48	15.65	21.14	21.94	16.86	32.15	23.61	36.18	27.69	12.14	20.98
Proportion of inside female directors	13.25	23.22	20.67	15.69	21.11	20.31	25.18	24.73	21.26	30.71	21.22	19.47	18.52	18.72	17.71	15.54	27.99	39.29	43.45	26.40	12.71	21.10
Proportion of outside female directors	40.40	32.66	17.60	47.04	37.93	38.28	28.30	56.03	54.47	21.09	36.34	40.91	15.13	29.95	48.70	24.15	53.97	2.59	11.39	37.52	11.68	27.84
Blau index of gender diversity in the boardroom	0.15	0.25	0.19	0.17	0.23	0.22	0.25	0.22	0.23	0.26	0.25	0.25	0.17	0.26	0.27	0.18	0.33	0.30	0.30	0.29	0.05	0.19
Blau index of gender diversity in inside directorship	0.13	0.20	0.19	0.15	0.18	0.13	0.22	0.21	0.19	0.25	0.10	0.11	0.09	0.06	0.12	0.11	0.18	0.34	0.23	0.19	0.05	0.16
Blau index of gender diversity in outside directorship	0.00	0.16	0.13	0.01	0.11	0.16	0.07	0.00	0.00	0.06	0.10	0.12	0.10	0.16	0.14	0.10	0.12	0.05	0.03	0.14	0.02	0.07
(c) Female social empowerment[b]																						
Female human development	0.98	0.98	1.01	0.99	1.00	0.99	0.99	1.02	1.03	1.03	0.99	0.98	0.97	0.97	0.95	0.92	1.01	1.01	1.00	1.01	0.96	0.99

(*Continued*)

Table 6.1 (Continued)

	Central Europe					*Eastern Europe and the Baltics*					*Southern Europe*						*Former Soviet Union*				*Asia*	
	Czech Republic	*Hungary*	*Poland*	*Slovakia*	*Slovenia*	*Bulgaria*	*Romania*	*Estonia*	*Latvia*	*Lithuania*	*Croatia*	*Serbia*	*Albania*	*Montenegro*	*North Macedonia*	*Bosnia–Herzegovina*	*Moldova*	*Belarus*	*Ukraine*	*Russia*	*China*	*All 21 emerging markets*
Female education level	99.99	96.41	83.15	99.21	97.25	94.44	88.15	100.00	100.00	94.30	94.62	86.31	93.70	87.96	41.83	73.99	96.59	87.24	94.00	96.31	76.03	89.59
Female labor participation	45.00	48.50	45.20	45.60	46.30	47.50	43.30	49.00	52.00	51.50	46.30	45.20	39.20	43.60	40.00	37.90	52.80	51.60	49.00	49.60	45.60	46.41
Female relative income	61.32	61.96	64.84	62.25	81.25	65.35	68.21	59.50	69.34	74.26	72.11	69.74	66.43	70.06	58.13	49.25	74.87	67.54	59.26	64.62	65.25	65.98
Presence of women in parliament	20.64	12.56	27.86	20.00	22.31	25.83	19.57	29.70	30.00	21.28	20.53	37.65	29.51	28.40	39.17	21.05	25.74	34.94	20.52	16.45	24.94	25.17

Notes: See **Online Appendix 6.1** for definitions and descriptive statistics of female social empowerment variables.

[a] Sample company average.

[b] The value for all emerging markets is a simple average of 21 countries.

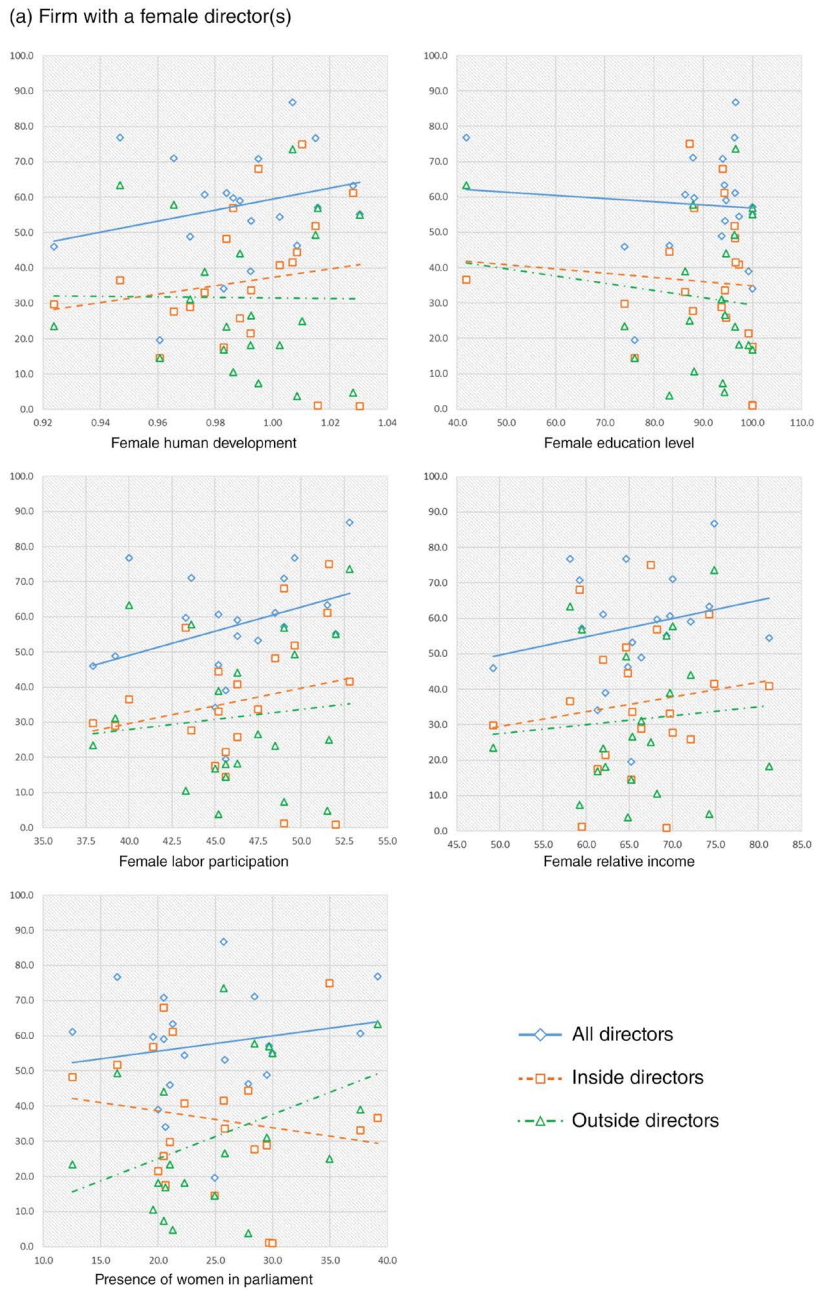

Figure 6.1 Scatterplots of female social empowerment variables and board gender diversity variables (*Continued*)

Notes: The vertical axis measures board gender diversity, and the horizontal axis measures female social empowerment. See **Online Appendix 6.1** for definitions and descriptive statistics of the variables.

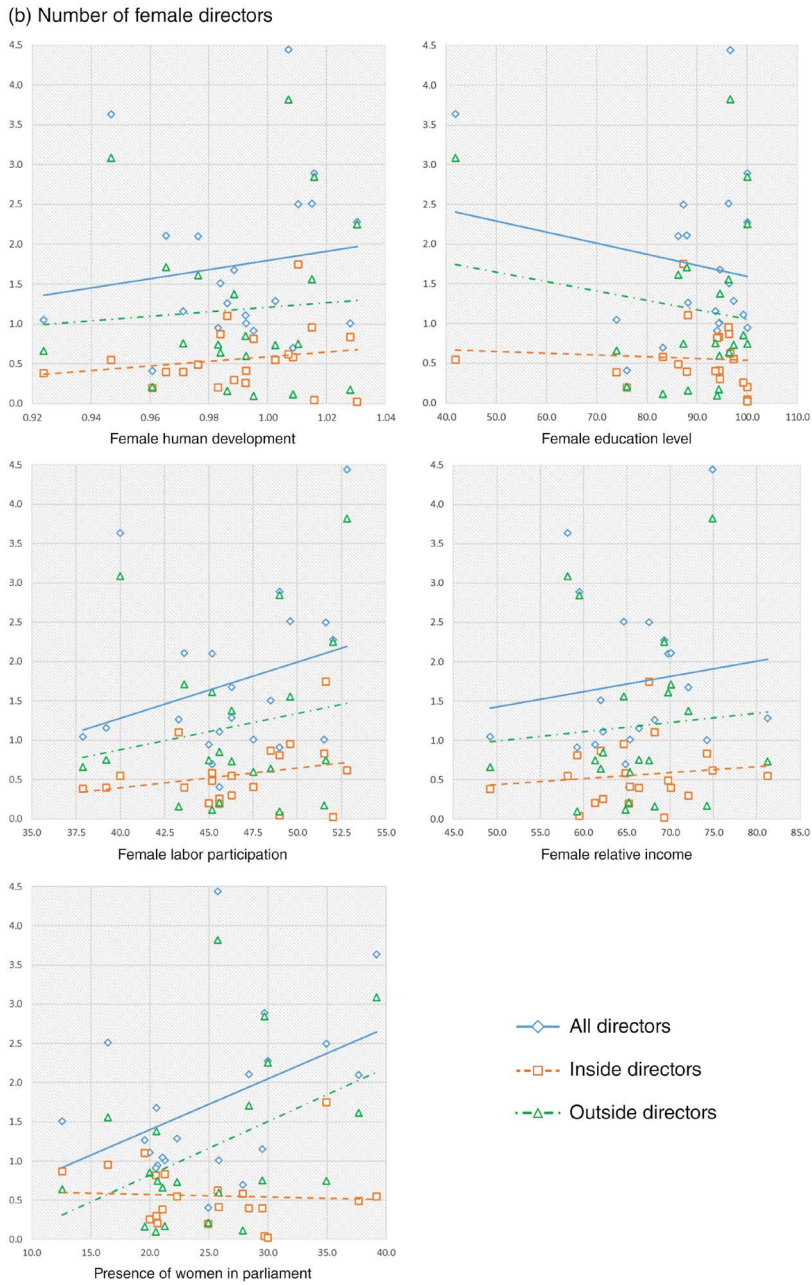

Figure 6.1 (*Continued*)

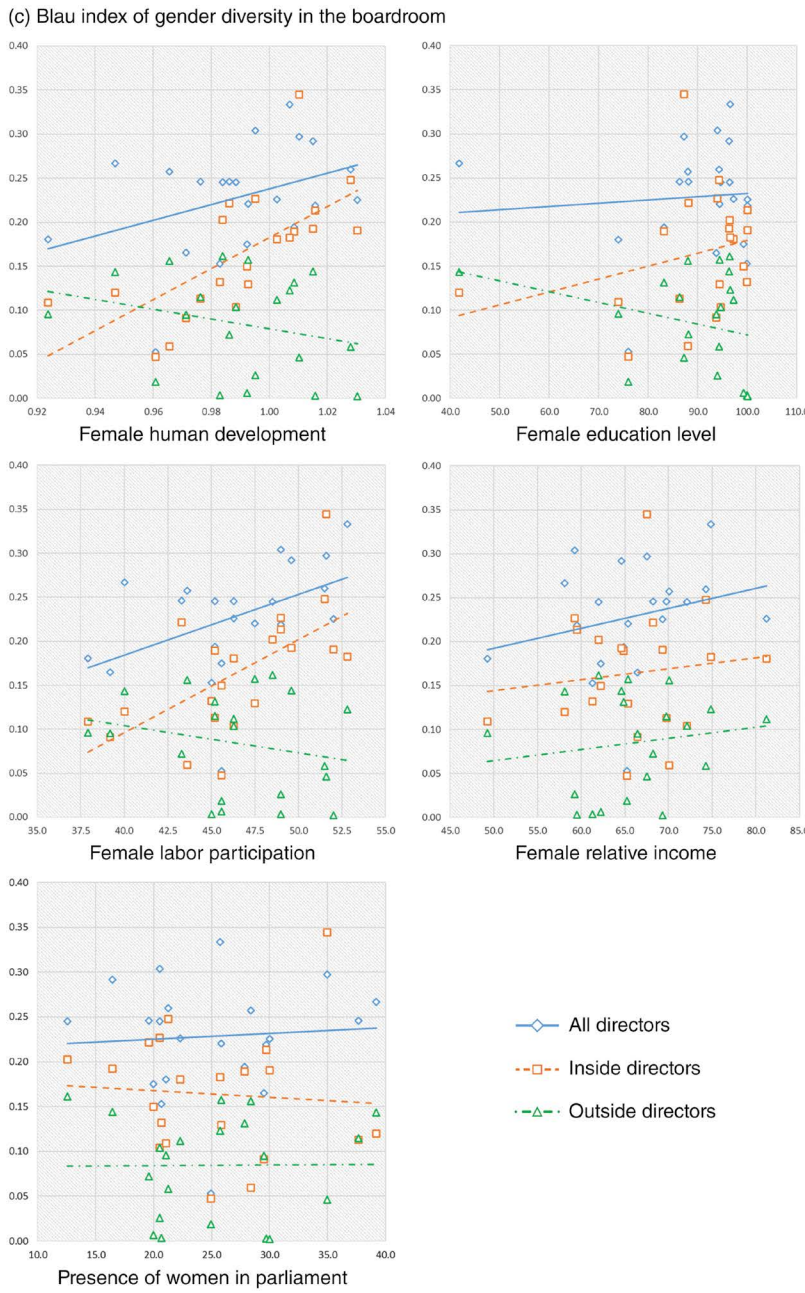

Figure 6.1 (*Continued*)

reported in Table 6.1. Consistent with Hypotheses H1 and H2, the approximate line formed by the scatterplots of values for the female social empowerment variable and values for the board gender diversity variable shows an upward slope in 32 of the 45 cases (71.1%), strongly suggesting the possibility of a close positive correlation between female social empowerment and board gender diversity. On the other hand, many of the scatterplots in which the variables of female education level and presence of women in parliament are used as a proxy for female social empowerment show a slope that is indicative of a negative correlation between female social empowerment and board gender diversity, which is not in line with our predictions.

Interestingly, in Panel (a) of Table 6.2, which shows the correlation matrix of female social empowerment variables, presence of women in parliament is shown to be negatively correlated with three indicators, whereas the other four indicators are positively correlated with one another. Further, Panel (b) of the table displays the correlation coefficients between the female social empowerment variables and board gender diversity variables, which were calculated using firm-level data. Evidently, the variable of presence of women in parliament is negatively correlated with all board diversity variables, which stands in sharp contrast to the other four female social empowerment variables that are positively correlated with all or most of the board gender diversity variables. These results were reproduced even when the sample firms were classified into listed and unlisted firms.[7]

As described above, information presented in Figure 6.1 and Table 6.2 strongly indicates that positive correlations are likely to exist between the female social empowerment variables and the board gender diversity variables, which is in agreement with Hypotheses H1 and H2. The only exception is the values for presence of women in parliament, which contradicts our expectations. The next section examines whether these findings can be reproduced even when various firm-level characteristics are controlled simultaneously.

6.4 Estimation Results

This section rigidly examines the impact of women's socioeconomic status on the gender diversity of boards in emerging market firms by means of regression estimation of Eq. (1). Subsections 6.4.1, 6.4.2, and 6.4.3 that follow describe how the female social empowerment variables affect the variables of firm with a female director(s), number of female directors, and board gender diversity as measured by the *BI*, respectively.

6.4.1 Female Director Appointment Model

Table 6.3 shows the estimation results for the generalized linear models with binomial distribution, in which firm with a female director(s), firm with an inside female director(s), or firm with an outside/independent female

Table 6.2 Correlation matrix of female social empowerment variables and their correlation coefficients with board gender diversity variables

(a) Correlation matrix of female social empowerment variables

	Female human development	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*
Female human development	1.000				
Female education level	0.648	1.000			
Female labor participation	0.851	0.558	1.000		
Female relative income	0.523	0.379	0.444	1.000	
Presence of women in parliament	–0.107	–0.491	–0.136	0.045	1.000

(b) Correlation coefficients between female social empowerment variables and board gender diversity variables

	Female human development	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*
Firm with a female director(s)	0.281	0.258	0.194	0.046	–0.181
Firm with an inside female director(s)	0.188	0.109	0.053	0.058	–0.175
Firm with an outside/independent female director(s)	0.148	0.206	0.254	–0.010	–0.108
Number of female directors	0.222	0.242	0.220	0.010	–0.143
Number of inside female directors	0.147	0.104	0.053	0.044	–0.195
Number of outside female directors	0.172	0.220	0.225	–0.014	–0.052
Blau index of gender diversity in the boardroom	0.287	0.276	0.168	0.047	–0.167
Blau index of gender diversity in inside directorship	0.212	0.165	0.069	0.033	–0.121
Blau index of gender diversity in outside directorship	0.211	0.200	0.159	0.020	–0.230

Notes: Panel (a) uses country-level data in Table 6.1, Panel (b) uses firm-level data. See **Online Appendix 6.1** for definitions and descriptive statistics of female social empowerment variables. **Online Appendix 6.2** shows the correlation coefficients between the female social empowerment variable and the board gender diversity variable by listed and unlisted firms.

Table 6.3 Estimation results of female director appointment model

Dependent variable	*Firm with a female director(s)*					*Firm with an inside female director(s)*					*Firm with an outside/independent female director(s)*				
Female social empowerment variable	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*
Model	*[1]*	*[2]*	*[3]*	*[4]*	*[5]*	*[6]*	*[7]*	*[8]*	*[9]*	*[10]*	*[11]*	*[12]*	*[13]*	*[14]*	*[15]*
Female social empowerment variable															
Effect on listed companies	17.38302***	0.02829***	0.08002***	0.01341***	−0.05674***	6.18494***	0.00532***	0.06429***	0.02351***	−0.05162***	10.41198***	0.03360***	0.07913***	0.04602***	−0.00688*
	(0.5618)	(0.0017)	(0.0052)	(0.0029)	(0.0032)	(0.6283)	(0.0019)	(0.0056)	(0.0030)	(0.0032)	(0.7378)	(0.0021)	(0.0072)	(0.0042)	(0.0036)
Effect on unlisted companies	18.14235***	0.03681***	0.10127***	0.03154***	−0.01663***	6.78591***	0.00277*	0.07590***	0.03434***	−0.03175***	9.91919***	0.02782***	0.07016***	0.04172***	−0.02602***
	(0.5420)	(0.0013)	(0.0048)	(0.0027)	(0.0023)	(0.6092)	(0.0015)	(0.0051)	(0.0028)	(0.0025)	(0.7155)	(0.0018)	(0.0067)	(0.0041)	(0.0034)
Firm-level variables															
Board size	0.36013***	0.36935***	0.38822***	0.39492***	0.38798***	0.27115***	0.28071***	0.27631***	0.27932***	0.26885***	0.22106***	0.21991***	0.22978***	0.24047***	0.22960***
	(0.0080)	(0.0080)	(0.0082)	(0.0082)	(0.0084)	(0.0072)	(0.0073)	(0.0071)	(0.0071)	(0.0072)	(0.0067)	(0.0066)	(0.0067)	(0.0067)	(0.0068)
CEO duality	−0.02744	0.05389	−0.01518	0.06655**	0.04225	−0.10812***	−0.07026*	−0.10314**	−0.04382	−0.12531***	0.72558***	0.72160***	0.73130***	0.83725***	0.77057***
	(0.0337)	(0.0331)	(0.0334)	(0.0334)	(0.0333)	(0.0407)	(0.0407)	(0.0407)	(0.0411)	(0.0407)	(0.0387)	(0.0384)	(0.0383)	(0.0377)	(0.0376)
Outside directorship	−0.00409***	−0.00536***	−0.00725***	−0.00511***	−0.00526***	−0.03184***	−0.03242***	−0.03378***	−0.03225***	−0.03255***	0.04333***	0.04246***	0.04269***	0.04506***	0.04455***
	(0.0004)	(0.0003)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)***	(0.0004)	(0.0004)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Ownership concentration	−0.05722*	−0.05701*	−0.10812***	−0.13387***	−0.12289***	−0.09361***	−0.07762**	−0.09203***	−0.06809**	−0.06020**	−0.17974***	−0.28029***	−0.15753***	−0.12710***	−0.17165***
	(0.0316)	(0.0316)	(0.0312)	(0.0311)	(0.0310)	(0.0343)	(0.0342)	(0.0343)	(0.0343)	(0.0343)	(0.0429)	(0.0438)	(0.0426)	(0.0428)	(0.0426)
State ownership	−0.24644***	−0.15557***	−0.27711***	−0.29742***	−0.25910***	−0.06003	−0.04497	−0.06068	−0.07103	−0.02238	0.04836	0.12397**	0.02520	−0.02108	0.04912
	(0.0459)	(0.0456)	(0.0451)	(0.0449)	(0.0448)	(0.0479)	(0.0481)	(0.0481)	(0.0482)	(0.0480)	(0.0503)	(0.0510)	(0.0500)	(0.0500)	(0.0505)
Foreign ownership	−0.24191***	−0.25469***	−0.19527***	−0.22816***	−0.21661***	−0.28404***	−0.28903***	−0.25312***	−0.28460***	−0.27554***	−0.30651***	−0.31561***	−0.28485***	−0.30957***	−0.27573***
	(0.0246)	(0.0246)	(0.0245)	(0.0244)	(0.0244)	(0.0267)	(0.0267)	(0.0268)	(0.0267)	(0.0269)	(0.0386)	(0.0386)	(0.0385)	(0.0383)	(0.0385)
Firm size	−0.05285***	−0.02853***	−0.03070***	−0.06822***	−0.04522***	−0.05923***	−0.05845***	−0.03765***	−0.07235***	−0.03415***	−0.04315***	−0.03987***	−0.03767***	−0.06035***	−0.03404***
	(0.0038)	(0.0039)	(0.0040)	(0.0038)	(0.0041)	(0.0040)	(0.0041)	(0.0043)	(0.0041)	(0.0045)	(0.0053)	(0.0053)	(0.0053)	(0.0054)	(0.0057)
Firm age	0.00464***	0.00689***	0.00809***	0.00877***	0.00864***	0.00266***	0.00392***	0.00352***	0.00411***	0.00408***	0.00525***	0.00501***	0.00668***	0.00735***	0.00703***
	(0.0007)	(0.0007)	(0.0008)	(0.0008)	(0.0008)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0007)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)

(*Continued*)

Table 6.3 (Continued)

Dependent variable	*Firm with a female director(s)*					*Firm with an inside female director(s)*					*Firm with an outside/independent female director(s)*				
Female social empowerment variable	*Female human development*	*Female education level*	*Female labor partici-pation*	*Female relative income*	*Presence of women in parliament*	*Female human develop-ment*	*Female education level*	*Female labor partici-pation*	*Female relative income*	*Presence of women in parliament*	*Female human development*	*Female education level*	*Female labor partici-pation*	*Female relative income*	*Presence of women in parliament*
Model	*[1]*	*[2]*	*[3]*	*[4]*	*[5]*	*[6]*	*[7]*	*[8]*	*[9]*	*[10]*	*[11]*	*[12]*	*[13]*	*[14]*	*[15]*
Profitability	–0.00237**	–0.00296***	–0.00332***	–0.00345***	–0.00356***	–0.00231**	–0.00273**	–0.00266**	–0.00259**	–0.00284***	–0.00579***	–0.00545***	–0.00636***	–0.00647***	–0.00622***
	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0014)	(0.0013)	(0.0013)	(0.0014)	(0.0013)
Financial risk	0.00027	–0.00232*	–0.00270*	–0.00287**	–0.00318**	0.00062	0.00153	0.00138	0.00119	0.00162	–0.00362	–0.00250	–0.00184	–0.00065	–0.00012
	(0.0013)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0022)	(0.0022)	(0.0021)	(0.0020)	(0.0020)
Solvency	0.00341***	0.00348***	0.00386***	0.00432***	0.00428***	0.00219***	0.00240***	0.00220***	0.00248***	0.00262***	0.00344***	0.00321***	0.00378***	0.00412***	0.00386***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Const.	–18.77649***	–4.55555***	–6.00860***	–3.03561***	–0.88737***	–6.62809***	–0.26381	–3.73956***	–2.09655***	0.39525***	–14.57618***	–7.14809***	–8.24714***	–7.65697***	–4.59609***
	(0.5331)	(0.1445)	(0.2468)	(0.1850)	(0.0876)	(0.5975)	(0.1651)	(0.2673)	(0.1961)	(0.0978)	(0.6991)	(0.1806)	(0.3331)	(0.2843)	(0.1247)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473
Deviance	59322.77	59695.88	60060.92	60389.35	60508.24	53186.78	53323.16	53101.31	53167.87	53131.13	33889.28	33839.01	33978.00	33981.44	34026.00
Wald test I[a]	6099.36***	5982.27***	5185.28***	4827.81***	4837.97***	8678.58***	8563.25***	8649.47***	8640.32***	8856.18***	14528.65***	14539.88***	13564.55***	13216.53***	13526.03***
Wald test II[b]	111.64***	103.73***	205.41***	293.57***	200.79***	74.27***	93.41***	63.57***	111.98***	49.52***	43.93***	45.10***	34.51***	15.90***	44.62***

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Robust standard errors are reported in parentheses beneath the corresponding coefficients. **Online Appendix 6.1** provides definitions and descriptive statistics of the variables used in estimation.

[a] Null hypothesis: All regression coefficients are zero.

[b] Null hypothesis: Effect of female social empowerment on listed companies is equal to that on unlisted companies.

director(s) is introduced in the left-hand side of Eq. (1). This table reports a total of 15 models that correspond to five types of female social empowerment variables for each of the three female director types.

As shown in Models [1] through [4] in the table, four of the female social empowerment variables—female human development, female education level, female labor participation, and female relative income—were estimated to have a positive impact on both listed and unlisted firms at a 1% significance level, suggesting that, consistent with Hypothesis H1, women's higher socioeconomic status, as measured by these indicators, has the effect of encouraging emerging market firms to appoint women to their boards. Furthermore, the large regression coefficients suggest that women's social empowerment, particularly their labor force participation, has a meaningful economic impact on firms' decision-making pertaining to the appointment of women to their boards. Although the coefficients describing the impact of presence of women in parliament on listed and unlisted firms in Model [5] are also significant at a 1% level, the signs assigned to them are both negative, which is contrary to our expectations.

Estimation results for Models [6] through [10] were derived by using firms with an inside female director(s) as the dependent variable, and those for Models [11] through [15] were derived by using firms with an outside/independent female director(s) as the dependent variable. All female social empowerment variables except presence of women in parliament were given significant and positive estimates in these models. These results strongly support Hypothesis H2 in the sense that the improvement in women's socioeconomic status implies not only that women will have a greater chance to be promoted internally to serve on the board, but also that they will be more likely to be welcomed as outside/independent directors.

The results of Wald test I of the hypothesis that all regression coefficients are zero and those of Wald test II of the aforementioned hypothesis that the effect of female social empowerment on listed firms is equal to that on unlisted firms are also provided in Table 6.3. As shown in the table, Wald test II rejects the null hypothesis at the 1% level for all 15 models, which is indicative of significant differences between listed and unlisted firms in terms of the size of the effect of female social empowerment on the probability of appointing a female to the board. Comparing the regression coefficients for listed and unlisted firms reveals that while the coefficients describing the effect of female social empowerment on listed firms always exceed those describing the effect of female social empowerment on unlisted firms in Models [11] through [15], the same is not true for Models [1] through [10] with the only exception being Model [7]. This result implies that Hypothesis H3, which predicts that the improvement of women's socioeconomic status has a greater effect on board gender diversity among listed than unlisted firms, only holds true where outside directors are concerned. Nonetheless, the differences observed in the coefficients across these models are not so large, and it seems that, where its effect on the probability of appointing a female to the

board is concerned, female social empowerment exerts similar effects across all emerging market firms regardless of their listing status.

6.4.2 Number of Female Directors Model

Panel (a) of Table 6.4 presents the estimation results for the Poisson regression models that take number of female directors as the dependent variable. Evidently, these models do not differ significantly from the aforementioned female director appointment models in terms of the implications obtained from the estimates for female social empowerment variables. Actually, in all models, four of the female social empowerment variables—female human development, female education level, female labor participation, and female relative income—were estimated to have a positive impact at a 1% significance level on the emerging market firms regardless of their listing status. On the other hand, the variable of presence of women in parliament was given a negative estimate in all cases except in Model [5]. The number-of-female-directors models, therefore, seem to strongly support Hypotheses H1 and H2 in all cases except the ones where presence of women in parliament is concerned.

Hypothesis H3, on the other hand, was partially supported, as indicated by the results of Wald test II. Specifically, in seven of the 15 models, the null hypothesis was not rejected, which denotes that no statistically significant difference can be observed between listed and unlisted firms; however, in the remaining eight models, the null hypothesis was rejected, and female social empowerment was shown to have a greater effect on listed than unlisted firms. Of these eight models, five (Models [11] through [15]) employed number of outside female directors as the dependent variable, which suggests that the estimation results are robust where outside directors are concerned. The number-of-female-directors models resemble the female director appointment models in that, even when statistically significant differences were observed between listed and unlisted firms with respect to how they were affected by female social empowerment, the observed differences in coefficient values were not so large.

6.4.3 Board Gender Diversity Model

Panel (b) of Table 6.4 shows the estimation results for models in which the Blau index of board gender diversity was used as the dependent variable. The estimation results for the female social empowerment variables show a pattern that is almost identical to those observed in Tables 6.3 and Panel (a) of Table 6.4. Specifically, the estimates in the models that used female human development, female education level, female labor participation, or female relative income demonstrate a significant and positive impact of female social empowerment on both listed and unlisted firms, whereas the estimates derived by models that used presence of women in parliament indicate a

Table 6.4 Estimation results of number-of-female-directors model and board gender diversity model

(a) Number-of-female-directors model

Dependent variable	*Number of female directors*					*Number of inside female directors*					*Number of outside female directors*				
Female social empowerment variable	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*
Model	*[1]*	*[2]*	*[3]*	*[4]*	*[5]*	*[6]*	*[7]*	*[8]*	*[9]*	*[10]*	*[11]*	*[12]*	*[13]*	*[14]*	*[15]*
Female social empowerment variable															
Effect on listed companies	13.88545*** (0.3744)	0.03784*** (0.0013)	0.06848*** (0.0037)	0.01945*** (0.0022)	–0.01777*** (0.0018)	8.10837*** (0.5371)	0.01170*** (0.0014)	0.03876*** (0.0042)	0.02845*** (0.0018)	–0.03394*** (0.0022)	14.04250*** (0.4729)	0.04230*** (0.0019)	0.09088*** (0.0048)	0.02043*** (0.0033)	–0.00168 (0.0023)
Effect on unlisted companies	13.82610*** (0.3639)	0.03622*** (0.0011)	0.06711*** (0.0034)	0.02014*** (0.0020)	–0.02447*** (0.0019)	8.05611*** (0.5088)	0.01088*** (0.0010)	0.03737*** (0.0036)	0.02876*** (0.0016)	–0.04650*** (0.0021)	13.72045*** (0.4717)	0.03857*** (0.0018)	0.08353*** (0.0047)	0.01669*** (0.0033)	–0.01895*** (0.0025)
Firm-level variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473
Log likelihood	–79275.58	–79384.26	–81021.99	–81560.90	–81357.53	–46586.77	–46806.76	–46797.27	–46709.71	–46326.90	–45171.46	–45161.04	–45927.57	–46492.11	–46402.02
Pseudo R^2	0.215	0.214	0.197	0.192	0.194	0.191	0.187	0.187	0.189	0.196	0.445	0.445	0.436	0.429	0.430
Wald test I[a]	12851.82***	12326.39***	10711.13***	10555.61***	11391.95***	11088.48***	10492.33***	10644.68***	10384.32***	11823.68***	22382.40***	22163.78***	20102.53***	19656.40***	19720.41***
Wald test II[b]	2.17	11.79***	2.40	1.19	16.86***	0.86	1.46	1.33	0.16	39.47***	52.33***	57.84***	62.37***	29.21***	84.57***

(*Continued*)

Table 6.4 (Continued)

(b) Board gender diversity model

Dependent variable	*Blau index of gender diversity in the boardroom*					*Blau index of gender diversity in inside directorship*					*Blau index of gender diversity in outside directorship*				
Female social empowerment variable	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*	*Female human development*	*Female education level*	*Female labor participation*	*Female relative income*	*Presence of women in parliament*
Model	*[16]*	*[17]*	*[18]*	*[19]*	*[20]*	*[21]*	*[22]*	*[23]*	*[24]*	*[25]*	*[26]*	*[27]*	*[28]*	*[29]*	*[30]*
Female social empowerment variable															
Effect on listed companies	6.59092***	0.01630***	0.03008***	0.00741***	–0.01107***	6.29010***	0.01037***	0.03523***	0.00924***	–0.01607***	5.37700***	0.01827***	0.03692***	0.01439***	–0.01253***
	(0.1375)	(0.0004)	(0.0013)	(0.0007)	(0.0006)	(0.2508)	(0.0007)	(0.0022)	(0.0012)	(0.0011)	(0.2357)	(0.0008)	(0.0024)	(0.0015)	(0.0012)
Effect on unlisted companies	6.62498***	0.01629***	0.03182***	0.00959***	–0.00888***	6.34358***	0.01101***	0.03661***	0.01133***	–0.01600***	5.24072***	0.01650****	0.03455***	0.01370***	–0.02126***
	(0.1348)	(0.0004)	(0.0012)	(0.0007)	(0.0006)	(0.2458)	(0.0006)	(0.0021)	(0.0012)	(0.0010)	(0.2318)	(0.0007)	(0.0023)	(0.0015)	(0.0014)
Firm-level variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473	52473
Log likelihood	–36807.28	–36869.81	–37751.83	–38031.59	–38024.34	–29990.68	–30189.84	–30182.53	–30302.36	–30217.29	–11343.80	–11241.78	–11455.57	–11525.16	–11382.06
Pseudo R^2	0.099	0.097	0.075	0.069	0.069	0.131	0.126	0.126	0.122	0.125	0.205	0.212	0.197	0.192	0.202
F test I[a]	257.60***	245.39***	181.10***	161.82***	169.27***	249.39***	239.02***	231.16***	222.77***	240.87***	257.68***	235.93***	216.98***	201.70***	234.83***
F test II[b]	8.36***	0.01	46.41***	146.38***	18.69***	5.87**	5.94**	8.32***	38.81***	0.01	58.61***	74.77***	38.10***	6.41**	116.00***

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Robust standard errors are reported in parentheses beneath the corresponding coefficients. **Online Appendix 6.1** provides definitions and descriptive statistics of the variables used in estimation. Full estimation results of Panels (a) and (b) are reported in **Online Appendixes 6.3** and **6.4**, respectively.

[a] Null hypothesis: All regression coefficients are zero.

[b] Null hypothesis: Effect of female social empowerment on listed companies is equal to that on unlisted companies.

significant and negative impact of female social empowerment irrespective of the listing status. In other words, the board gender diversity models resemble the other two types of models, in that Hypotheses H1 and H2 are rejected only when presence of women in parliament was used to proxy female social empowerment in emerging markets, and all other proxies provide strong empirical support for these two hypotheses.

Furthermore, the F test II rejected the null hypothesis in 13 of the 15 models, which strongly suggests that the increased socioeconomic status of women affects the promotion of board gender diversity differently between listed and unlisted firms.

Moreover, Hypothesis H3 holds true only where the gender composition of outside directors is concerned. In fact, the effect of female social empowerment on board gender diversity is statistically significantly greater in listed than unlisted firms in Models [27] through [30]; however, in Models [21] through [25], the impact is larger in unlisted than listed firms, which is contrary to our expectations. The noteworthy trend of asymmetry in the effect of female social empowerment between inside and outside directors, which can also be observed in the estimation results presented in Tables 6.3 and 6.4, may have important implications, although the difference in effect size between these two types of directors is not markedly large.[8]

6.5 Robustness Check

The empirical results reported in Section 6.4 are statistically robust in the sense that they consistently demonstrated that women's socioeconomic status may exert a powerful influence over the board gender diversity of emerging market firms, regardless of which variable was used to proxy female social empowerment or board gender diversity. This section further examines the statistical robustness of the findings presented in the previous section through estimations that account for the various sample constraints related to the differences among the sample firms in terms of their size, the industry sectors to which the firms belong, and the countries they reside in or the sample selection bias that may exist between firms with and without female directors.

As described in Table 6.1, our sample firms operate in a wide range of industrial sectors and vary in size. In view of this, we carried out a supplemental estimation to confirm whether the estimates in Tables 6.3 and 6.4 could be reproduced even when we limited the target of regression analysis to a specific industry sector or firm size. The estimation results reported for Models [1] through [3] and Models [4] through [6] in Table 6.5 were derived from Eq. (1), which was estimated by using observations from mining and manufacturing industry and those from the service industry, respectively. These models used female human development to proxy female social empowerment, as it is the most comprehensive indicator of female social empowerment. As shown by these six models, the effects of female human development on listed and unlisted firms were both estimated to be

Table 6.5 Supplemental estimation with various sample restrictions for a robustness check

Sample firm	*Mining and manufacturing*			*Services*			*Larger firms*			*Smaller firms*			*Without Chinese and Russian firms*			*Firms with female directors*	
Estimator	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Heckman two-stage*	
Dependent variable	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Number of female directors*	*Blau index of gender diversity in the boardroom*
Model	*[1]*	*[2]*	*[3]*	*[4]*	*[5]*	*[6]*	*[7]*	*[8]*	*[9]*	*[10]*	*[11]*	*[12]*	*[13]*	*[14]*	*[15]*	*[16]*	*[17]*
Female social empowerment variable																	
Effect on listed companies	21.45410***	19.26598***	2.58341***	13.41264***	8.75564***	1.59453***	18.19398***	11.90029***	5.72378***	16.10980***	16.15316***	7.25096***	4.10952***	0.86655*	0.17630**	3.96056***	1.40380***
	(0.8241)	(0.5128)	(0.0656)	(0.8620)	(0.5553)	(0.0757)	(0.8088)	(0.4936)	(0.1723)	(0.8257)	(0.5702)	(0.2344)	(0.7708)	(0.4789)	(0.0751)	(0.6144)	(0.0459)
Effect on unlisted companies	22.18879***	19.14603***	2.60810***	14.22755***	8.78967***	1.62405***	18.83868***	11.75263***	5.70386***	16.49135***	16.54044***	7.29495***	4.97119***	0.92510*	0.23780***	4.29684***	1.39616***
	(0.7973)	(0.5006)	(0.0638)	(0.8275)	(0.5411)	(0.0737)	(0.7838)	(0.4851)	(0.1693)	(0.7842)	(0.5195)	(0.2282)	(0.7571)	(0.4750)	(0.0749)	(0.6011)	(0.0451)
Firm-level variables																	
Board size	0.35401***	0.04375***	0.00697***	0.35246***	0.04598***	0.00892***	0.32342***	0.04214***	0.01359***	0.42357***	0.06527***	0.03524***	0.31672***	0.05021***	0.00768***	0.11262***	–0.00309***
	(0.0120)	(0.0024)	(0.0005)	(0.0123)	(0.0036)	(0.0006)	(0.0106)	(0.0022)	(0.0008)	(0.0126)	(0.0043)	(0.0021)	(0.0101)	(0.0026)	(0.0005)	(0.0039)	(0.0002)
CEO duality	–0.10848**	–0.03943	–0.02004***	0.06254	–0.03236	0.00271	–0.03299	0.05457**	0.01302	0.01544	–0.18863***	–0.11550***	0.12242**	–0.13922***	0.00643	–0.07395**	–0.00753***
	(0.0472)	(0.0274)	(0.0034)	(0.0554)	(0.0312)	(0.0046)	(0.0473)	(0.0252)	(0.0085)	(0.0508)	(0.0301)	(0.0127)	(0.0483)	(0.0287)	(0.0045)	(0.0376)	(0.0025)
Outside directorship	–0.00493***	0.00858***	–0.00057***	–0.00240***	0.00964***	–0.00021***	–0.00392***	0.00960***	–0.00110***	–0.00374***	0.00794***	–0.00242***	–0.00018	0.01054***	0.00011**	0.02242***	–0.00074***
	(0.0005)	(0.0003)	(0.0000)	(0.0006)	(0.0003)	(0.0000)	(0.0005)	(0.0003)	(0.0001)	(0.0005)	(0.0003)	(0.0001)	(0.0005)	(0.0003)	(0.0000)	(0.0004)	(0.0000)
Ownership concentration	–0.06653	–0.14183***	–0.01972***	0.17237***	0.04922	0.00794*	–0.16928***	0.01356	0.00936	–0.02266	0.00966	–0.03448***	0.03528	–0.00478	–0.01280***	0.27651***	0.00487*
	(0.0457)	(0.0314)	(0.0037)	(0.0494)	(0.0344)	(0.0046)	(0.0451)	(0.0280)	(0.0097)	(0.0454)	(0.0317)	(0.0127)	(0.0384)	(0.0303)	(0.0039)	(0.0388)	(0.0026)
State ownership	–0.15546**	0.03978	–0.00765	–0.37085***	0.02563	–0.02436***	–0.27500***	0.03192	–0.04609***	–0.16730**	0.00430	–0.03201*	–0.08805	0.20679***	–0.00186	–0.17236***	–0.01718***
	(0.0768)	(0.0453)	(0.0055)	(0.0630)	(0.0409)	(0.0051)	(0.0610)	(0.0347)	(0.0099)	(0.0716)	(0.0567)	(0.0179)	(0.0652)	(0.0451)	(0.0060)	(0.0494)	(0.0032)
Foreign ownership	–0.29940***	–0.12798***	–0.02049***	–0.18708***	–0.01799	–0.00548	–0.33784***	–0.16226***	–0.07113***	–0.12946***	–0.03700	0.00284	–0.29098***	–0.08434***	–0.01929***	0.01926	0.00446**
	(0.0345)	(0.0264)	(0.0028)	(0.0372)	(0.0097)	(0.0036)	(0.0374)	(0.0289)	(0.0088)	(0.0338)	(0.0248)	(0.0097)	(0.0278)	(0.0211)	(0.0028)	(0.0321)	(0.0022)
Firm size	–0.05493***	–0.05265***	–0.00669***	–0.04640***	–0.04007***	–0.00509***	–0.02082***	–0.04672***	–0.01035***	–0.13083***	–0.01678	–0.04578***	–0.03270***	–0.02164***	–0.00286***	0.04522***	–0.00173***
	(0.0055)	(0.0036)	(0.0005)	(0.0058)	(0.0036)	(0.0005)	(0.0065)	(0.0034)	(0.0014)	(0.0147)	(0.0115)	(0.0041)	(0.0050)	(0.0036)	(0.0005)	(0.0049)	(0.0003)
Firm age	0.00363***	0.00203***	0.00031***	0.00564***	0.00396***	0.00033***	0.00624***	0.00352***	0.00074***	0.00412***	0.00269**	0.00158***	0.00263***	0.00294***	0.00025***	–0.00208***	0.00004
	(0.0009)	(0.0004)	(0.0001)	(0.0014)	(0.0007)	(0.0001)	(0.0011)	(0.0004)	(0.0001)	(0.0010)	(0.0011)	(0.0003)	(0.0008)	(0.0005)	(0.0001)	(0.0007)	(0.0000)

(*Continued*)

Table 6.5 (Continued)

Sample firm	*Mining and manufacturing*			*Services*			*Larger firms*			*Smaller firms*			*Without Chinese and Russian firms*			*Firms with female directors*	
Estimator	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Binomial GLS*	*Poisson*	*Tobit*	*Heckman two-stage*	
Dependent variable	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Firm with a female director(s)*	*Number of female directors*	*Blau index of gender diversity in the boardroom*	*Number of female directors*	*Blau index of gender diversity in the boardroom*
Model	*[1]*	*[2]*	*[3]*	*[4]*	*[5]*	*[6]*	*[7]*	*[8]*	*[9]*	*[10]*	*[11]*	*[12]*	*[13]*	*[14]*	*[15]*	*[16]*	*[17]*
Profitability	0.00040	–0.00519***	–0.00030**	–0.00613***	–0.00293***	–0.00060***	–0.00452***	–0.00421***	–0.00115***	0.00061	–0.00366***	–0.00025	–0.00009	–0.00387***	–0.00023*	–0.00197*	–0.00011
	(0.0017)	(0.0010)	(0.0001)	(0.0016)	(0.0009)	(0.0001)	(0.0015)	(0.0007)	(0.0003)	(0.0016)	(0.0011)	(0.0004)	(0.0014)	(0.0010)	(0.0001)	(0.0012)	(0.0001)
Financial risk	0.00028	–0.00310*	–0.00015	0.00008	–0.00690***	–0.00017	0.00216	–0.00545***	0.00026	–0.00776***	–0.00975***	–0.00257***	–0.00034	–0.00767***	–0.00036**	–0.00563***	–0.00012
	(0.0020)	(0.0016)	(0.0002)	(0.0018)	(0.0015)	(0.0002)	(0.0018)	(0.0012)	(0.0004)	(0.0027)	(0.0023)	(0.0008)	(0.0016)	(0.0015)	(0.0002)	(0.0018)	(0.0001)
Solvency	0.00301***	0.00315***	0.00038***	0.00383***	0.00284***	0.00047***	0.00431***	0.00288***	0.00114***	0.00257***	0.00310***	0.00100***	0.00274***	0.00231***	0.00029***	0.00032	0.00017***
	(0.0006)	(0.0004)	(0.0000)	(0.0006)	(0.0004)	(0.0001)	(0.0005)	(0.0003)	(0.0001)	(0.0006)	(0.0004)	(0.0002)	(0.0005)	(0.0004)	(0.0000)	(0.0005)	(0.0000)
Inverse Mills ratio	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–1.68726***	0.00315
																(0.0699)	(0.0046)
Const.	–22.51588***	–18.90857***	–2.30560***	–14.88645***	–8.80826***	–1.38984***	–19.81446***	–11.79010***	–5.57534***	–16.05447***	–17.00837***	–6.62950***	–5.78112***	–1.19425**	–0.02428	–2.68081***	–0.95536***
	(0.7824)	(0.5039)	(0.0638)	(0.8194)	(0.5442)	(0.0729)	(0.7654)	(0.4773)	(0.1681)	(0.8437)	(0.5728)	(0.2447)	(0.7437)	(0.4732)	(0.0732)	(0.6100)	(0.0455)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	26833	26833	26833	20708	20708	20708	26236	26236	26236	26237	26237	26237	32816	32816	32816	52473	52473
Deviance/Log likelihood	29089.67	–37403.71	–6444.62	24398.53	–33037.12	–2875.73	29195.62	–43549.55	–18813.41	29870.75	–35075.56	–17604.89	41418.19	–48687.35	–3469.79	–	–
Pseudo R^2	–	0.228	0.721	–	0.196	0.456	–	0.215	0.077	–	0.199	0.111	–	0.204	0.178	–	–
Wald/F test I[a]	3391.37***	7613.57***	452.89***	1856.78***	4392.96***	74.67***	2951.33***	7076.15***	119.03***	3019.70***	5324.03***	119.04***	1610.86***	8170.80***	1078.99***	7760.03***	2780.49***
Wald/F test II[b]	55.72***	6.16**	13.73***	49.94***	0.26	12.94***	65.18***	14.79***	2.82*	3.45*	4.79**	1.19	70.69***	1.23	72.53***	34.94***	3.81*

Notes: ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Robust standard errors are reported in parentheses beneath the corresponding coefficients. **Online Appendix 6.1** provides definitions and descriptive statistics of the variables used in estimation.

[a] Null hypothesis: All regression coefficients are zero.

[b] Null hypothesis: Effect of female social empowerment on listed companies is equal to that on unlisted companies.

significant and positive at a 1% level, even when the observations were limited to a specific industry sector. However, a comparison of the mining and manufacturing industry and the service industry reveals that the coefficients of female human development for the mining and manufacturing industry always exceed those for the service industry, regardless of which board gender diversity variable is used. This suggests that the impact of female social empowerment on board gender diversity can differ across industry sectors.[9] Considering the possibility that women's socioeconomic status can have different effects on managerial decisions concerning board director selection depending on the size of the firms, we divided the sample firms into two groups by using the median of the firm size variable as a cutoff to carry out additional estimations. The estimation results are summarized under Models [7] through [12], which reveal no significant difference between the two groups.

Because firms operating in large nations such as China and Russia account for 37.5% of the entire sample, their presence could have impacted the estimation results considerably. To address this issue, we carried out estimations by removing all observations yielded from Chinese and Russian firms. The results are shown in Models [13] through [15]. Although the number of countries analyzed shrunk from 21 to 19, and the amount of data also decreased substantially, female human development was still estimated to exert a significant and positive impact on both listed and unlisted firms.[10]

A qualitative difference may exist between the managerial decision to have women on the board and the managerial decision as to how many women should actually be appointed to the board. In other words, substantial bias may exist between the samples of firms with and without female directors. To control for the so-called "sample selection bias," we utilized the Heckman two-stage estimator to estimate the number of female directors model and the board gender diversity model, both of which are only subject to firms with female board directors. In Table 6.5, the results correspond to Model [16] and Model [17], respectively. Again, the effects of female human development on listed and unlisted firms were both estimated to be significant and positive. However, the coefficients derived from these Heckman two-stage models are much smaller as compared to those of Model [1] and Model [16] in Table 6.4. These results imply that the effect of the increased socioeconomic status of women on a firm's managerial decisions concerning board gender composition may vary greatly between the two decision-making stages described above. This may indeed be the case, as the inverse of the Mills ratio—the sample selection bias correction term—was estimated to be significant at a 1% level in Model [16], which is an interesting finding that deserves attention.

The supplemental estimation results presented in this section are strongly suggestive of an inseparable relationship between female social empowerment and board gender diversity even after controlling for heterogeneity across firms and qualitative differences in the decision-making process

between firms with and without female directors.[11] We can, therefore, conclude that the empirical results reported in Section 6.4 are statistically robust.

6.6 Conclusions

In this chapter we presented an empirical analysis of emerging market firms to examine how women's social empowerment at the state level affects firm-level decisions on the gender composition of the board. The findings obtained from the analysis of the indicators of female social empowerment and data on 52,473 listed and unlisted firms in 20 East European countries and China are summarized in the next four points:

First, our results suggest that firms in countries that have successfully improved women's socioeconomic status in terms of human development levels, educational levels, labor force participation, and income levels tend to have more gender-diverse boards, indicating decisive support for Hypothesis H1. Second, the results also provide strong empirical support for Hypothesis H2, which states that women's social empowerment encourages firms to appoint more women to their boards from not just inside but also outside the firm. Third, Hypothesis H3, which predicts that women's social empowerment has a greater effect on board gender diversity among listed than unlisted firms, holds true only where female outside directors are concerned. Fourth, the empirical analysis in this chapter also revealed an unexpected result, wherein firms in countries with higher female political representation seem to have less gender-diverse boards. We confirmed that these findings are statistically robust, as they were repeatedly reproduced even in estimations that accounted for various sample constraints or the sample selection bias that may exist between firms with and without women on their corporate boards.

In agreement with the US study of Thams et al. (2018) and the international studies of Terjesen and Singh (2008) and Griffin et al. (2021), which indicated that firms in countries that have successfully improved women's socioeconomic status tend to have more gender-diverse boards, this chapter has demonstrated that the same general trend can also be observed in emerging market countries. This implies that human capital policies to encourage the social empowerment of women can have a positive impact on corporate behavior in terms of gender equality in the appointment of board members. On the other hand, our results also raised two major questions: (1) Why does women's representation in parliament in an emerging market show an inverse relationship with board gender diversity of firms? (2) Why does women's social empowerment exert a greater impact on listed than unlisted firms only where the appointment of female outside directors is concerned? We would like to conclude this paper by presenting our views on these two questions.

As for the first question concerning the inverse relationship between female political representation and board gender diversity, we predicted early on that coefficients for the presence of women in parliament were highly likely to be estimated negatively in a multiple regression analysis. This prediction

was based on Panel (a) of Table 6.2, which shows the variable of presence of women in parliament to be negatively correlated with female human development, female education level, and female labor participation, and also on Panel (b) of the same table, which shows presence of women in parliament to be negatively correlated with all board gender diversity variables. In terms of women's representation in parliament, North Macedonia (39.17%), Serbia (37.65%), and Belarus (34.94%) make up the top three among our sample of 21 emerging markets. However, these three countries rank 20th, 16th, and 5th, respectively, for GDI score. Interestingly, the top two countries with the highest female representation in parliament are ranked in low positions by GDI. In addition, countries such as Albania, Montenegro, and China, which are among the bottom five countries by GDI, belong to the top group in terms of women's representation in parliament. We confirmed a similar trend in comparisons of the sample firms using other indicators of female social empowerment. These findings imply that more than a few emerging market countries with high levels of women's representation in national politics have significant gender gaps in other economic and social aspects, including the selection and appointment of board members.

The political and economic context and past experiences of these countries may explain the discrepancy between women's political representation and the gender diversity of the board. In these countries, decisions are often made informally in both political and economic spheres, which has held back women's advancement. However, where female political representation is concerned, women have been appointed to the board to fulfill a kind of quota through a sort of number-crunching exercise to determine the number of female board members in a firm, which is reflective of the legacy of the socialist era when both men's and women's interests were officially and equally represented in the political sphere. However, despite the high levels of women's representation in national politics, only a few, if any, of these women were actually appointed to the highest echelon of influential political organizations and state institutions during the socialist era. Women used to face significant barriers and had limited opportunities to demonstrate their abilities.

Such quotas were eliminated in elections held after the transition to a market economy, causing women's representation in parliament to drop in all former socialist states. However, due in part to the legacy of past national election procedures, these countries tend to have relatively high levels of female representation in parliament as compared to other countries. In many emerging markets, the transition to a market economy was followed by increased demand for equal political opportunities for both men and women (Mertus, 1998; Rozhanovskaya and Pardini, 2020). On the other hand, in the business domain, despite higher labor participation rates and educational attainment among women, gender disparity persists because women tend to have less hands-on experience as compared to men, which deprives them of their opportunity to gain knowledge and skills on risk management and other important business functions, leadership experience, or business knowledge

(IFC, 2013). In this sense, women face more invisible barriers in the economy than in politics.

Our explanation for the second question concerning asymmetry in the effect of female social empowerment is that, while listed firms as the "public institutions of society" may be more eager than their unlisted counterparts to fulfill their CSR by demonstrating both internally and externally their commitment to actively appointing women to their boards from outside the firm, they may be imposing stricter restrictions on the promotion of their female employees to board positions as compared to unlisted firms.

Emerging markets are no different from advanced nations in that listed firms are obviously more frequently subjected to government investigations and media coverage than their unlisted counterparts. Naturally, the organizational behavior of listed firms often attracts significant public attention. For such firms, recruiting qualified women from outside the firm to serve on the board not only has the practical advantage of gaining managerial perspectives and other knowledge unique to women but also has the effect of showcasing their openness and willingness to embrace gender equality. With the recent improvement in the socioeconomic status of women, listed firms in emerging markets may well be impelled to recruit female directors externally—more so than their unlisted counterparts—as part of their CSR activities aimed at resolving gender issues.

We should also keep in mind that a majority of listed firms in East European countries and China are either state-owned or formerly state-owned privatized enterprises. Under the socialist planned economy, state-owned firms were highly bureaucratic and extremely male dominated. As Saeed et al. (2016) pointed out in the context of Russian firms, there is a deep-rooted inertia in the corporate culture and institutional structure of large firms in these countries even decades after they made their transition to market economies. In contrast, many of the unlisted firms that emerged after the era of the planned economy appear to treat male and female employees more equally and reward their employees based on their performance. Furthermore, it may be easier for women to find employment in small and medium-sized unlisted firms than in large publicly listed firms, and managers in unlisted firms may be more open to what their female employees have to say.

As repeatedly demonstrated by the empirical results in this chapter, however, no remarkable differences were found between listed and unlisted firms in terms of the degree to which female social empowerment encourages the promotion of board gender diversity. Perhaps there is not much point in emphasizing the differences between listed and unlisted firms with respect to the gender composition of the board. As market principles become more established in emerging markets, we may one day find that there is no longer any difference between listed and unlisted firms with respect to the internal appointment of female employees as board members. We will leave verification of this assumption for future studies.

Notes

1 The literature search was conducted in October 2024.
2 In fact, Oshchepkov (2006) suggested that women in Russia contribute more to the accumulated human capital of the country than men do, which may be a factor contributing to the correction of gender wage gaps in the country.
3 See the statement of the managing director of external relations of the Moscow Stock Exchange (https://focus.world-exchanges.org/articles/esg-moves-top-agenda-moscow).
4 In our preliminary estimation procedure, we also attempted to estimate the regression equation with probit and logit estimators, but in many cases the maximum likelihood estimation did not converge.
5 The names, definitions, and descriptive statistics of the nine dependent variables and 16 independent variables described above are listed in **Online Appendix 6.1**. For the classification of industrial sectors, we followed the "Section" level of the Statistical Classification of Economic Activities in the European Community (NACE).
6 On average, there were 4.41 directors per sample firm, which consisted of 2.44 inside directors and 1.97 outside directors, as shown in **Online Appendix 6.1**.
7 See **Online Appendix 6.2** for the correlation coefficients between the female social empowerment variables and the board gender diversity variables by listed and unlisted firms.
8 **Online Appendixes 6.3** and **6.4** report full estimation results of the number-of-female-directors model and board gender diversity model, respectively. **Online Appendix 6.5** reports the estimation results derived by models that used proportion of female directors as the dependent variable. The estimation results for the female social empowerment variables exhibit a pattern similar to those seen in Tables 6.3 and 6.4. Furthermore, in agreement with the results presented by the models reported in these two tables, the hypothesis that the effect of female social empowerment on board gender diversity is greater in listed than in unlisted firms holds true only in the models that used proportion of outside female directors as the dependent variable.
9 Even in models in which analysis was restricted to firms in the agriculture, forestry, and fisheries industry or those in the construction industry, female human development was estimated to be significant and positive in all cases.
10 The additional exclusion of observations yielded from Poland, which has the largest number of sample firms after China and Russia, did not reveal substantial changes in the estimates for female human development.
11 Although Table 6.5 reports only the estimates of female human development to proxy female social empowerment, we also performed similar robustness checks by using four other female social empowerment variables and confirmed that female education level, female labor participation, and female relative income were repeatedly estimated to be significant and positive, whereas presence of women in parliament was estimated to be significant and negative.

References

Atencio, A., and J. Posadas. 2015. Gender gap in pay in the Russian Federation: Twenty years later, still a concern. Policy Research Working Paper No. 740, World Bank: Washington, D.C.

Brzozowski, M. 2013. Gender equality as the determinant of FDI flows to Central European countries. *Ekonomia* 33: 101–125.

Burke, R. J. 1994. Women on corporate boards of directors: Views of Canadian chief executive officers. *Women in Management Review* 9(5): 3–10.
Carter, D. A., B. J. Simkins, and W. G. Simpson. 2003. Corporate governance, board diversity, and firm value. *Financial Review* 38(1): 33–53.
Castillo-Villar, R. G. 2020. Identifying determinants of CSR implementation on SDG 17 partnerships for the goals. *Cogent Business & Management* 7, Article 1847989.
De Cabo, R. M., R. Gimeno, and M. J. Nieto. 2012. Gender diversity on European banks' boards of directors. *Journal of Business Ethics* 109(2): 145–162.
Cabo, R. M., S. Terjesen, L. Escot, and R. Gimeno. 2019. Do 'soft law' board gender quotas work? Evidence from a natural experiment. *European Management Journal* 37(5): 611–624.
De Jonge, A. 2014. The glass ceiling that refuses to break: Women directors on the boards of listed firms in China and India. *Women's Studies International Forum* 47(B): 326–338.
Díaz-Iglesias, S., A. Blanco-González, and C. Orden-Cruz. 2021. The progress of corporate social responsibility from a gender perspective through change management. *Harvard Deusto Business Research* 10(1): 93–108.
Fodor, E. 2013. The policy on gender equality in Hungary update 2013: Note. European Parliament Directorate General for Internal Policies.
Frye, M. B. and D. T. Pham. 2018. CEO gender and corporate board structures. *Quarterly Review of Economics and Finance* 69: 110–124.
Ghodsee, K. R. and J. Mead. 2018. What has socialism ever done for women? *Catalyst* 2(2): 101–133.
Grant Thornton. 2020. Women in business 2020: Putting the blueprint into action. Grant Thornton: London.
Griffin, D., K. Li, and T. Xu. 2021. Board gender diversity and corporate innovation: International evidence. *Journal of Financial and Quantitative Analysis* 56(1): 123–154.
Hillman, A. J., and A. A. Cannella Jr. 2007. Organizational predictors of women on corporate boards. *Academy of Management Journal* 50(4): 941–952.
IFC. 2013. *Women in Corporate Boards in Bosnia and Herzegovina, FYR Macedonia and Serbia*. IFC: Washington, D.C.
ILO. 2013. Promoting decent work in Eastern Europe and Central Asia: ILO decent work technical support team and country office for Eastern Europe and Central Asia – Areas of work. ILO: Moscow.
ILO. 2018. *Women in Business and Management: Gaining Momentum in Eastern Europe and Central Asia*. Bureau of Employers' Activities: Geneva.
Iwasaki, I. 2008. The determinants of board composition in a transforming economy: Evidence from Russia. *Journal of Corporate Finance* 14(5): 532–549.
Iwasaki, I., and M. Satogami. 2023. Gender wage gap in European emerging markets: A meta-analytic perspective. *Journal for Labour Market Research* 57, Article 17.
Iwasaki, I., and X. Ma. 2020. Gender wage gap in China: A large meta-analysis. *Journal for Labour Market Research* 54, Article 9.
Kang, H., M. Cheng, and S. J. Gray. 2007. Corporate governance and board composition: Diversity and independence of Australian boards. *Corporate Governance: An International Review* 15(2): 194–207.
Lane, D. 1985. *Soviet Economy and Society*. Basil Blackwell: Oxford.
López-Concepción, A., A. I. Gil-Lacruz, and I. Saz-Gil. 2022. Stakeholder engagement, CSR development and SDGs compliance: A systematic review from 2015 to 2021. *Corporate Social Responsibility and Environmental Management* 29(1): 19–31.
Mensi-Klarbach, H., S. Leixnering, and M. Schiffinger. 2021. The carrot or the stick: Self-regulation for gender-diverse boards via codes of good governance. *Journal of Business Ethics* 170(3): 577–593.

Mertus, J. 1998. Human rights of women in Central and Eastern Europe. *The American University Journal of Gender, Social Policy and the Law* 6(2): 369–484.
Morikawa, M. 2016. What types of companies have female directors? Evidence from Japan. *Japan and the World Economy* 37–38: 1–7.
Oshchepkov, A. Y. 2006. Gender differences in wages in Russia. HSE Preprint WP3/2006/08, Higher School of Economics: Moscow. (In Russian)
Ouedraogo, R., E. Marlet, and C. Sánchez-Muñoz. 2018. Foreign direct investment and women empowerment: New evidence on developing countries. Working Paper No. WP/18/25, IMF: Washington, D.C.
Rozhanovskaya, N., and V. Pardini. 2020. The status of women in Russian society. Conference Report, Wilson Center and Kennan Institute: Washington, D.C.
Saeed, A., Y. Belghitar, and A. Yousaf. 2016. Firm-level determinants of gender diversity in the boardrooms: Evidence from some emerging markets. *International Business Review* 25: 1076–1088.
Sila, V., A. Gonzalez, and J. Hagendorff. 2016. Women on board: Does boardroom gender diversity affect firm risk? *Journal of Corporate Finance* 36: 26–53.
Tanaka, T. 2019. Gender diversity on Japanese corporate boards. *Journal of the Japanese and International Economies* 51: 19–31.
Terjesen, S., and V. Singh. 2008. Female presence on corporate boards: A multi-country study of environmental context. *Journal of Business Ethics* 83(1): 55–63.
Thams, Y., B. L. Bendell, and S. Terjesen. 2018. Explaining women's presence on corporate boards: The institutionalization of progressive gender-related policies. *Journal of Business Research* 86: 130–140.
United Nations. 2015. Transforming our world: The 2030 agenda for sustainable development (Resolution adopted by the General Assembly on 25 September 2015). UN: New York.
World Economic Forum. 2021. *Global Gender Gap Report 2021*. Insight Report, World Economic Forum: Cologny and Geneva.