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Promoter Homophily in Boards: Does it Really Matter? - An Analysis of Indian Firms

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Abstract

The phenomenon of homophily which suggests that people tend to associate with others having similar traits is observed in many relations including marriage, friendship, work relations, etc. In this paper we provide evidence of homophily in Indian boards with respect to the linguistic affiliation of the promoter. A homophilous board is in effect a less linguistically diverse board. Homophily can lead to fall in diverse perspectives, weak governance and higher risk of decision errors. At the same time homophily also improves communication and coordination among the members of the board and the promoter leading to smooth board functioning. We find that promoter homophily in board is negatively associated with financial performance of firms indicating that the negative channels dominates the positive effects for firms in India. Further, the relation is stronger for the standalone firms vis-a-vis the groups firms suggesting that in emerging market economies the group firms having established reputation and connection with other group firms can partially offset the negative effects of homophily in board. The findings are in support of the research emphasizing the need of board diversity across various dimensions.

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1. Introduction

The proponents of boardroom diversity argue that diversity is related to better availability of perspectives on issues which is likely to improve group output (McLeod *et al.* 1996, and Hong and Page 2001). Page (2007) proposed the 'diversity prediction theorem' which states that the prediction error of a collective group is equal to the difference of average prediction error of the individuals in the group and the prediction diversity. If there is diversity in prediction then the prediction error is always positive and hence, the collective error is less than the average individual error. The theorem leads to the 'crowd beats the average law'. The law states that for any group of diverse predictive models, the collective prediction is more accurate than average individual predictions. In workplace it means that a team of diverse problem solvers will always provide better solutions than any individual worker. This posits a strong economic case for diversity in workplace. In the context of boards, there are studies that have examined the effect of racial/ethnic diversity on firm level outcomes. Carter *et al*. (2003) finds that board diversity given by percentage of women, African Americans, Hispanics and Asians in the board is positively related to firm performance of Fortune 1000 firms in 1997. Carter *et al.* (2010) finds that there exists no relation between gender and ethnic diversity of boards or board committees and firm performance for large US corporations. Globally, regulators are also recognizing the need of board diversity across various dimensions like gender (e.g. France, Italy, Norway) age (e.g. Denmark, Austria), ethnicity (e.g. United Kingdom, United States, Australia), etc. However, focus on linguistic diversity is still in its early stages and linguistic diversity can be very pertinent in multi-lingual[1] nations. In this paper we aim to study the relation between linguistic diversity in board and firm performance in the context of a multi-lingual country.

In order to quantify the linguistic diversity in corporate boards we apply the sociological concept of homophily. Homophily is tendency among people to disproportionately associate with others having similar characteristics (Lazarsfeld and Merton 1954). The phenomenon of homophily is not new and there exists evidence of homophily in all kinds of relations like marriages, friendship and work relations (McPherson *et al.* 2001). Homophily can be viewed as the inverse of diversity .i.e. higher the extent of homophily lower is the diversity. In the context of boards, homophily indicates less diverse boards and consequently lower availability of different perspectives on issues. We measure homophily with respect to the linguistic affiliation of the promoter of the firm i.e. our homophily measure tells us whether and to what extent the linguistic affiliation of the board of directors is same as that of the firm's promoter and this we refer to as 'promoter homophily' in board.

We choose to set up our analysis in India for the following reasons. Firstly, India is a culturally diverse and multi-linguistic country. The workplaces bring people from different cultural backgrounds together and corporate boards are no different. Boards more often than not comprise of directors from various backgrounds and variation in form of linguistic diversity is likely to be observed. Historically the businesses in India were dominated by people of a few linguistic communities like the Marwaris (mother tongue being Marwari) and Gujaratis (mother tongue being Gujarati). Overtime, few of the businesses set up in the pre-independence era based on strong linguistic and communal connections have grown to become leading business groups

[1] Multilingualism refers to the use of more than two languages by the people at the societal level; however, it does not require individuals to be competent in the use of more than one language.

in India (e.g. the Birla group started by a Marwari family of Birlas over 100 years ago)[2]. Also, most of the arranged marriages in India are typically among brides and grooms belonging to the same linguistic background. Further article 30(1) of the Constitution of India allows linguistic minority institutions to be set up in each state to protect their cultural diversity. Secondly, the corporate sector in India is characterized by concentrated ownership. The composition of the board in terms of proportion of executive and non-executive directors, appointment of independent directors and such is driven by the requirements of the Clause 49 of the Listing Agreement. The Clause 49 of the Listing Agreement is similar in spirit to the Sarbanes-Oxley Act in United States. The Clause 49 does not require firms to maintain a specific level of linguistic diversity in boards. Given the dominance of homophily in various settings it seems likely that boards in India on average exhibit homophily with respect to the linguistic identity of the promoter of the firm. Thirdly, the corporate governance regulations require the firms to provide information of directors sitting on their boards and availability of such reliable data is pivotal for our analysis.

Ex-ante homophily and performance can be related either positively or negatively. Homophily in the board can ensure better communication among peers and trust in discussing important issues. The directors from similar background can feel more connected to each other on account of shared cultural history and experiences resulting in higher cooperation among them. This can lead to effective communication among the directors ensuring faster decision making and smooth board functioning both of which are beneficial for firm performance.

Homophily and profitability of the firm can also be related through three possible negative channels. Firstly, having directors from varied linguistic backgrounds with different cultural experience can provide alternate perspectives enriching the board level decision making process which can be especially beneficial for firm performance at times of external crisis or uncertainty. Secondly, the diversity prediction theorem and crowd beats average law indicates that a diverse board are likely to produce less erroneous strategic decisions vis-à-vis less diverse boards. Finally, if majority of the directors belong to the same community then there can be collusion among the directors of the majority community and the minority directors may not be in a strong position to ensure that other directors pay heed to his/her advice. Such a board can constitute a weak board and weak internal corporate governance structure can be detrimental for firm performance. The actual relation of homophily and performance is ambiguous and requires contextual empirical support.

Using a set of publicly listed firms in India, the paper finds that more than 89 percent of the firms exhibit homophily with respect to the linguistic affiliation of the promoter. Further, promoter homophily is negatively related to firm profitability given by adjusted Q-ratio in India. The negative relation exists across sub-samples of group and standalone firms. It suggests that the negative effects of fall in availability of perspectives, higher prediction error and perceived internal weak governance is higher than benefits from better communication and coordination in the board.

The contribution of this paper to the existing literature is twofold. Firstly, it adds to the general corporate governance literature by testing how linguistic homophily in boards is related to firm's performance in the context of an emerging market economy. Secondly, it is related to

[2] Mehta (1955) provides an account of large family businesses in India before independence and why they became powerful business groups in the post-Independence period.

the empirical sociology literature and provides evidence of linguistic homophily in corporate boards.

The remaining paper is organized as follows. Section 2 provides a description of data and methodology used. Section 3 gives the empirical results and Section 4 summarizes the findings and concludes the study.

2. Data and Methodology

2.1 Sample

The analysis is based on the data provided by the Prowess database maintained by the Centre for Monitoring Indian Economy. Prowess is a database containing detailed information on large and medium Indian firms from their respective annual reports. We consider only listed firms as the Clause 49 of the Listing Agreement is applicable only to these entities and they are mandated to publicly disclose details pertaining to their board of directors. Also, the boards of central and state owned government companies and public sector enterprises are decided by the government and the feature of promoter homophily is not applicable to such firms. Hence, we only consider non-government listed firms for this study.

The homophily measure is a slow changing variable, so we consider gap years to capture the variation in firm specific homophily patterns. We consider all publicly listed firms with the National Stock Exchange of India in 2012 and trace these firms in 2007 and 2003. The final sample is obtained after excluding firms for which financial information is not available or details on shareholding pattern is missing. Post the screening we arrive at 2879 firm year observations[3]. To ensure that the results are not affected by the influential observations, the extreme values are winsorized at 5 and 95 percentiles.

2.2 Homophily Measure

Promoter homophily is captured using three different measures viz. homophily dummy, inbreeding homophily and board share (Currarini *et al.* 2009). Board share gives the proportion of directors in the board having the same linguistic affiliation as the firm's promoter. It is given as:

$$s_{ip} = \frac{\text{Number of}'p'\text{type directors in board of firm}'i'}{\text{Board size of firm }'i'} \quad (1)$$

where *p* is the linguistic affiliation of the promoter in firm *i*.

Inbreeding homophily of firm *i* takes into account the extent of homophily within the board. It is defined as the difference between the board share of *p* type directors in firm *i* (s_{ip}) and the proportion of *p* type directors in the director sample (w_p) divided by one minus the share of *p* type directors in the sample. It can be written as:

$$IH_i = (s_{ip} - w_p)/(1 - w_p) \quad (2)$$

Finally, the homophily dummy of firm *i* simply captures the presence of homophily in board which takes the value one when inbreeding homophily is positive and zero otherwise.

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[3] Appendix 1 gives the details of data screening process.

$$H_i = \begin{cases} 1 \text{ if } IH_i > 0 \\ 0 \text{ if } IH_i \leq 0 \end{cases} \quad (3)$$

2.3 Performance Measure

The dependent variable in the analysis is firm profitability which we measure using market value measure given by Tobin's Q-ratio. The primary advantage of using market value measure is that it is observable and it reflects the information that market participants have and how they perceive underlying firm. Market measures are forward looking and better captures long term effects of governance structures and firm organizations. The Q-ratio is defined as the ratio of market value of assets and debt to the replacement cost of assets. In India a significant portion of firm's debt is institutional debt which is not traded in capital markets and assets are also recorded at their historical costs. Hence, we have to use an adjusted Tobin's Q-ratio as primary measure of firm performance which is defined as the sum of market value of equity and book value of debt divided by the book value of assets. The adjusted Tobin's Q-ratio have been considered by several corporate finance studies in the context of India (Khanna and Palepu, 2000; Sarkar and Sarkar 2000).

2.4 Controls

As suggested in the literature, we control for firm size, age, board size, leverage ratio, promoter's shareholding (Shleifer and Vishny, 1986; Classens and Djankov, 1999), board network and affiliation to a business group in the regression analysis. In the analysis firm size is defined as the logarithm of total assets. Age variable is the logarithm of age arrived after subtracting the year of incorporation from the financial year of analysis. Leverage ratio in the model is given by the ratio of debt to equity. We use logarithm of board size as a control variable in firm performance regressions (Lipton and Lorsch, 1992; Yermack 1996). We use degree measure to control for the board network for the firm which can determine the resources available to the firm (Hochberg et al. 2007, Balasubramanian et al. 2011). To control for the effect of group affiliation, we incorporate a group dummy which takes the value one if the firm belongs to a business group and zero otherwise (Khanna and Palepu, 2000; Kali and Sarkar, 2011). In addition to the above set of controls, we include industry and time dummies in both the analyses in order to control for industry and time specific factors respectively.

2.5 Methodology

The empirical specification for capturing the relation between promoter homophily and firm performance is given as:

$$\text{Adjusted Tobin}'\text{sQ} - \text{ratio}_{i,t} = \beta_0 + \beta_1 \text{Promoter homophily}_{i,t} + + \sum_{j=2}^{k} \beta_j \text{Controls}_{j,t} + \varepsilon_{i,t} \quad (4)$$

The promoter homophily measures given by homophily dummy, inbreeding homophily and board share are highly correlated; hence we use them separately in the analysis. If $\beta_1>0$ then the benefits of coordination and cooperation is higher than the costs associated with loss of diverse perspectives, perceived weak governance and the threat of higher errors in decision making. On the other hand $\beta_1<0$ then it indicates that negative channels dominates the role of better coordination among board members.

3. Results
3.1 Qualitative Analysis

Table 1 summarizes promoter homophily patterns in Indian boards during the period of analysis. Approximately 89 percent of the firm year observations exhibit promoter homophily and only 11 percent boards are non-homophilous. Further, 5 percent of the boards exhibit perfect promoter homophily, i.e. the entire board is comprised of directors belonging to the linguistic community of the promoter. The year-wise distribution shows that around 87 percent of boards where homophilous in 2003 and 2007, whereas in 2012 it increased to 92 percent. The presence of homophily does not seem to differ across group and standalone firms. However, mean of inbreeding homophily is higher for standalone firms vis-à-vis group firms and the difference is significant. The transition probabilities show that if a firm has a homophilous board in 2003 then there is 97 percent probability of the board remaining homophilous in the next time period. Only 3 percent of the homophilous boards are likely to become non-homophilous in the next period. However, if a board is non-homophilous to begin with then it has an approximately 48 percent probability of becoming homophilous in the next time period. A non-homophilous board remains so over 50 percent of the time. The simple transition probabilities indicate that the homophilous boards are relatively stable group and are likely to maintain its status quo over a period of time. Also, non-homophilous boards exhibit promoter homophily over time.

Table 1: Homophily patterns

The table below gives percent of firms that exhibit promoter homophily based on year, group and standalone firms classification, and transition probabilities.

	Homophilous boards	Non-homophilous boards
Year-wise		
2003	87.2	12.8
2007	86.7	13.3
2012	91.8	8.2
Overall	88.9	11.1
Ownership type		
Business group firms	88.5	11.5
Standalone firms	89.3	10.7
Based on transition		
Homophilous boards in 2003	96.6	3.4
Non-homophilous boards in 2003	47.6	52.4

All figures are in percent

Panel A of Table 2 presents the summary statistics of firm level variables for the full sample of firms. The mean inbreeding homophily suggests that approximate 40 percent of the board tends to be composed of directors of same linguistic background. The average

shareholding of promoters in Indian firms is over 50 percent reflecting concentrated ownership structure in India. The mean of leverage variable is more than one suggesting that average firm has highly leveraged position, but a low median reflects that majority of the firms in India are not highly leveraged. In order to further understand the dataset, we construct two clusters using k-means partitioning method and the results are tabulated in panel B of Table 2. It appears that group 1 firms with marginally lower inbreeding homophily than group 2 firms; exhibit higher profits, constitute bigger firms, have higher promoter's share, are older and have larger board network. The descriptive results suggest that a promoter homophily in board is a prevalent feature of Indian firms[4].

Table 2: Descriptive statistics

The panel A of the table presents summary statistics for the sample of firms. The first column gives the mean and the second column gives the median for the firms during the period. Panel B gives the summary statistics of firm characteristics when the sample is split into two clusters using k-means partitioning method.

Panel A

Variables	Mean	Median	Standard	Minimum	Maximum
Inbreeding homophily	0.37	0.35	0.33	-0.30	1.00
Adjusted Q-ratio	0.92	0.66	0.91	0.01	5.53
Firm size	8.29	8.17	1.46	6.24	10.91
Board network	0.15	0.11	0.13	0.00	1.00
Leverage	1.18	0.13	1.73	0.00	10.62
Promoter's share	52.04	40.72	17.45	6.54	92.70
Age	29.56	23	22.45	4	149
Board size	8.56	8	3.08	3	25

Panel B

	Group 1	Group 2
Inbreeding homophily	0.34	0.36
Adjusted Q-ratio	1.08	0.87
Firm size	8.67	8.44
Board network	0.20	0.14
Leverage	1.02	1.37
Promoter's share	59.62	48.73
Age	35.70	29.4
Board size	9.7	8.6

3.2 Regression Results

The regression result of homophily on firm performance given by adjusted Q-ratio is tabulated in Table 3. The various homophily measures captures the relation of promoter homophily and profitability. The results indicate that all the homophily measures have a significant direct negative relation with Q-ratio. Column 1 suggests that homophily dummy has a negative association with Q-ratio given by the coefficient -0.216. Similarly, the coefficients of inbreeding homophily and board share are negative and highly significant. This indicates that the positive

[4] Appendix 2 gives the correlation among the explanatory variables and the VIF values.

effect of better cooperation among the board members leading to smooth board functioning is outweighed by the negative effect of lack of diverse perspectives, possibility of higher prediction error and weak governance. The results are in agreement to the findings of diversity scholars[5].

Table 3: Homophily and firm performance relation

The table reports the parameter estimates obtained from the regression of homophily on firm performance. Homophily dummy takes the value one if there is homophily in boards and zero otherwise, inbreeding homophily gives the extent of homophily in board that exceeds the population shares of the communities and board share is simply the share of directors belonging to the ethnic community of promoter. The dependent variable is adjusted Tobin's Q-ratio defined as (market value of equity + book value of debt) / book value of assets. The values in parenthesis give the robust standard errors clustered at the individual group level. The independent variables are a set of firm characteristic variables, group dummy, industry dummies and year dummies.

Variables	Column1	Column2	Column3	Column4	Column5	Column6
Constant	1.081***	-0.603***	1.086***	-0.600***	1.159***	-0.559***
	(0.066)	(0.176)	(0.034)	(0.176)	(0.041)	(0.177)
Homophily dummy	***-0.188****	***-0.216****				
	(0.069)	***(0.075)***				
Inbreeding homophily			***-0.464****	***-0.293****		
			(0.059)	***(0.064)***		
Board share					***-0.536****	***-0.331****
					(0.066)	***(0.070)***
Board network		1.256***		1.164***		1.183***
		(0.271)		(0.274)		(0.277)
Promoter's share		0.006***		0.0056***		0.005***
		(0.001)		(0.001)		(0.001)
Leverage		-0.055***		-0.054***		-0.054***
		(0.009)		(0.009)		(0.009)
Age		-0.051		-0.045		-0.044
		(0.032)		(0.032)		(0.032)
Board size		-0.219***		-0.215***		-0.220***
		(0.073)		(0.073)		(0.072)
Firm size		0.073***		0.066***		0.069***
		(0.018)		(0.018)		(0.018)
Group dummy		-0.009		-0.016		-0.032
		(0.041)		(0.041)		(0.041)
Industry dummies	No	Yes	No	Yes	No	Yes
Year dummies	No	Yes	No	Yes	No	Yes
Observations	3134	2,828	3134	2,828	3134	2,879
R-squared	0.007	0.137	0.024	0.140	0.024	0.139

Note: Significance at 1 percent, 5 percent and 10 percent levels are denoted by ***, **, * respectively against the parameter estimate values.

[5] Appendix 3 shows that panel data estimation also gives qualitatively similar results.

Table 4: Homophily and firm performance relation: Group and standalone firms

The table reports the parameter estimates obtained from the regression of promoter homophily on firm performance for group (columns1-3) and standalone firms (columns4-6) separately. The values in parenthesis give the robust standard errors. The independent variables are a set of firm characteristic variables, industry dummies and year dummies. Refer table 3 for description of the variables.

	Group firms			Standalone firms		
Variables	Column1	Column2	Column3	Column4	Column5	Column6
Constant	-0.446*	-0.469*	-0.429*	0.263	0.160	0.0255
	(0.239)	(0.239)	(0.239)	(0.332)	(0.312)	(0.283)
Homophily dummy	***-0.0979***			***-0.394******		
	(0.089)			***(0.123)***		
Inbreeding homophily		***-0.203****			***-0.419*****	
		(0.084)			***(0.100)***	
Board share			***-0.247*****			***-0.466*****
			(0.093)			***(0.110)***
Board network	1.166***	1.096***	1.135***	1.798***	1.699***	1.564***
	(0.309)	(0.313)	(0.321)	(0.471)	(0.478)	(0.466)
Promoter's share	0.005***	0.005***	0.005***	0.007***	0.006***	0.006***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Leverage	-0.053***	-0.053***	-0.053***	-0.063***	-0.060***	-0.058***
	(0.012)	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
Age	-0.072*	-0.067	-0.071*	-0.045	-0.038	-0.030
	(0.041)	(0.041)	(0.041)	(0.040)	(0.040)	(0.042)
Board size	-0.227**	-0.221**	-0.224**	-0.254**	-0.267**	-0.253**
	(0.090)	(0.089)	(0.090)	(0.111)	(0.115)	(0.110)
Firm size	0.064***	0.061**	0.060**	0.075***	0.064***	0.075***
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.027)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,718	1,718	1,726	1,110	1,110	1,153
R-squared	0.146	0.148	0.152	0.151	0.152	0.145

Note: Significance at 1 percent, 5 percent and 10 percent levels are denoted by ***, **, * respectively.

Group firms are a dominant player in the Indian corporate sector and within the sample more than 60 percent of the observations correspond to group firms. Business group researchers often argue that group firms operate differently from standalone firms especially in emerging market economies (Khanna and Yafeh, 2007). To analyze whether ownership structure like affiliation to a business group has any effect on the homophily and firm performance relation, we re-estimate the results of equation 4 for the sub-samples of group and standalone firms. The results are given in Table 4. Similar, to the full sample results, we find that there is negative and significant relation between promoter homophily and Q-ratio for both group and standalone firms. However, the magnitude of the coefficients of the homophily measures are larger for the standalone firms compared to the group firms in the sample. We test for the difference in the magnitude of coefficients for the group and standalone firms. The chi-square test suggests that the difference in coefficient is significant for the inbreeding homophily and homophily dummy

measures and the difference in coefficients of the board share measure is only significant at the 12 percent level of significance. The group firms having homophilous boards signal loss of diverse perspective to a lesser extent than their standalone counterparts, since these firms have access to other group firms' information which adds to its availability of diverse perspectives on issues. Also, given their established reputation, the perceived risk from weak governance is lower within group firms contributing towards a larger negative relation for standalone firms in the sample. It appears that the ownership structure does seem to be marginally important in affecting the strength of homophily and firm performance relation for Indian firms, however the direction of relation is robust to group and standalone classification.

3.3 Robustness Checks

We also test whether our results hold under different settings. The Tobin's Q measure is a proxy for the market valuation of the firm and it can be influenced by future investment opportunities available to the firm (Yermack, 1996, and Sarkar and Sarkar, 2009). A proxy for growth opportunities given by advertising expenses to total income is included as an additional control. Columns 1-3 of Table 5 indicate that the promoter homophily and firm profitability results continue to hold on including growth opportunities of the firm as an additional control variable.

Table 5: Robustness checks

The table presents the results of robustness analysis for homophily and firm performance relation. Column 1-3 gives the relation of homophily measures and profitability on including growth opportunities of the firm as an additional control in the profitability regression. Columns 3-5 give the relation of homophily measures and profitability after the inclusion of the government firms in the sample. The ***nongov*** dummy takes the value one if the firm is a non-government firms and zero otherwise. The values in parenthesis give the robust standard errors. The independent variables are a set of firm characteristic variables, group dummy, industry dummies and year dummies. For brevity only the homophily measures and the interaction terms are reported. Refer table 3 for description of the variables.

	Including growth opportunities			Including government firms		
Variables	Column1	Column2	Column3	Column4	Column5	Column6
Homophily dummy	-0.180**			0.118		
	(0.089)			(0.137)		
Homophily dummy*Nongov				-0.335**		
				(0.158)		
Inbreeding homophily		-0.256***			0.170	
		(0.084)			(0.229)	
Inbreeding homophily*Nongov					-0.469*	
					(0.240)	
Board share			-0.283***			0.079
			(0.0902)			(0.279)
Board share*Nongov						-0.417
						(0.289)
Nongov				0.768***	0.609***	0.660***
				(0.159)	(0.109)	(0.132)
Observations	1684	1684	1684	2,965	2,965	3,016
R-squared	0.255	0.258	0.247	0.136	0.139	0.139

Note: Significance at 1 percent and 5 percent levels are denoted by ***, **respectively against the parameter estimate values.

The government firms were excluded as their board composition is decided by the government. The observed homophily for these firms may not be a structural feature of the board and is likely to be coincidental. Now, we include the government firms as the control group in the sample and compute the promoter homophily measure for these firms. We estimate the following regression specification:

$$\text{Adjusted Tobin}'\text{sQ} - \text{ratio}_{i,t} = \alpha + \beta_0 \text{Promoter homophily}_{i,t} + \beta_1 \text{Promoter homophily}_{i,t} * \text{Nongov} + \beta_2 \text{Nongov} + \sum_{j=3}^{k} \beta_j \, \text{Controls}_{j,t} + \varepsilon_{i,t} \quad (5)$$

where *nongov* is a dummy variable which takes the value one if the firm is a non-government firm and zero otherwise.

The coefficients of the homophily measure and non-government firm dummy interaction term captures the effect of boards having high homophily in non-government firms compared to government firms. It can be written as:

$$\beta_1 = ((E(Y|\beta X)_{\text{Boards having high homophily}} - E(Y|\beta X)_{\text{Boards having low homophily}})|_{\text{Non-government firms}} - ((E(Y|\beta X)_{\text{Boards having high homophily}} - E(Y|\beta X)_{\text{Boards having low homophily}})|_{\text{Government firms}} \quad (6)$$

Columns 4-6 of Table 5 give the result of estimating equation 5. The coefficients of the interaction term are negative and significant for the homophily dummy and inbreeding homophily measures. It suggests that a rise in homophily has a negative relation with profitability for non-government firms vis-à-vis government firms in the sample. The interaction term for board share is negative and significant only at 15 percent level of significance. The homophily measures are insignificant for the combined sample. This indicates that board homophily is important only for the non-government firms in the sample. The analysis reinstates the findings presented earlier.

4. Summary and Conclusion

In the present paper we find presence of promoter homophily in corporate boards in India. Around 89 percent of the boards in India are homophilous in support of the empirical sociology literature which finds that homophily phenomenon is prevalent in all settings. The promoter homophily and profitability is negatively related for non-government firms in India. It indicates that the costs associated with loss of diverse perspectives, possibility of higher error in strategic decisions and weak governance outweighs the possible benefits from better cooperation and coordination within the board. The finding suggests that the presence of homophily is related to undesirable economic outcome. It reinstates the need for diversity in boards from economical point of view in addition to the ethical standpoint. The present study is an attempt to understand how board feature like homophily is related to firm performance in an emerging market economy. However, the study does not explicitly focus on whether promoter homophily is indeed related with weak governance practices at the firm level. It can be an interesting project to examine the how promoter homophily is related to firm's governance practices like levels of CEO compensation and its pay-performance sensitivity.

Appendix 1

Details of Data Screening

The table gives the steps followed in arriving at the final sample of firms. The data is obtained from Prowess database maintained by Center of Monitoring Indian Economy (CMIE). The sample consists of firms listed at the National Stock Exchange (NSE) of India in 2012.

Various steps	Number of firms	Firm year observations
Step1: Firms listed with NSE in 2012 for which annual accounts are available in the public domain for 2003, 2007 and 2012.	1539	3817
Step2:Less: Firms with missing financial information (total assets, age, ownership data, data on directors, debt, market value of equity and others)	1290	938
Final Sample		2879

Appendix 2

Collinearity Diagnostics

Panel A presents the correlation among the explanatory variables of the model and Panel B reports the variance inflation factor and the tolerance values.

Panel A

	Homophily	IH	Board share	Board network	Promoter's share	Leverage	Age	Board size	Firm size
Homophily	1								
Inbreeding homophily	0.56***	1							
Board share	0.55***	0.99***	1						
Board network	-0.18	-0.21***	-0.22***	1					
Promoter's share	-0.06***	-0.06***	-0.06***	0.04**	1				
Leverage	0.02	0.01	0.02	0.05***	-0.00***	1			
Age	-0.077	-0.04	-0.04***	0.24***	-0.00***	0.01	1		
Board size	0.02	-0.16***	-0.15***	0.74***	0.06***	0.06	0.26	1	
Firm size	-0.02	-0.22***	-0.22***	0.58***	0.03**	0.12***	0.26***	0.52***	1

Panel B

Variable	VIF	Tolerance
Homophily dummy	1.02	0.98
Inbreeding homophily	1.07	0.94
Board share	1.07	0.932
Board network	2.75	0.36
Board size	2.34	0.43
Firm size	1.7	0.59
Age	1.11	0.90
Leverage	1.06	0.94
Promoter's shares	1.03	0.97

Appendix 3

Homophily and firm performance relation: Fixed effects model

The table reports the parameter estimates obtained from the regression of firm performance on promoter homophily and other firm characteristics using firm and year fixed effects..

	Column 1	Column2	Column 3
Homophily dummy	-0.148*		
	(0.088)		
Inbreeding homophily		-0.263*	
		(0.135)	
Board share			-0.332**
			(0.155)
Board network	1.724***	1.746***	1.911***
	(0.394)	(0.393)	(0.392)
Promoter's share	-0.003*	-0.003*	-0.003
	(0.002)	(0.002)	(0.002)
Leverage	-0.020	-0.020	-0.018
	(0.013)	(0.013)	(0.013)
Age	-0.106	-0.102	-0.123
	(0.078)	(0.078)	(0.079)
Board size	-0.101	-0.133	-0.172
	(0.116)	(0.116)	(0.116)
Firm size	0.164***	0.160***	0.163***
	(0.030)	(0.030)	(0.030)
Constant	0.188	0.241	0.373
	(0.348)	(0.351)	(0.356)
Firm and year fixed effects	Yes	Yes	Yes
Observations	2,828	2,828	2,879
R-squared	0.060	0.060	0.062
Number of firms	1,269	1,269	1,290

Note: Significance at 1 percent, 5 percent and 10 percent levels are denoted by ***, **, * respectively against the parameter estimate values.

Homophily and firm performance relation: Random effects model

The table reports the parameter estimates obtained from the regression of firm performance on promoter homophily and other firm caharacteristics variables using firm random effects.

	Column 1	Column2	Column 3
Homophily dummy	-0.191***		
	(0.058)		
Inbreeding homophily		-0.295***	
		(0.066)	
Board share			-0.338***
			(0.074)
Board network	1.358***	1.283***	1.320***
	(0.230)	(0.231)	(0.230)
Promoter's share	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)
Leverage	-0.054***	-0.053***	-0.052***
	(0.010)	(0.010)	(0.010)
Age	-0.073***	-0.068**	-0.071***
	(0.027)	(0.027)	(0.027)
Board size	-0.187**	-0.191**	-0.200***
	(0.077)	(0.076)	(0.076)
Firm size	0.102***	0.094***	0.095***
	(0.016)	(0.016)	(0.016)
Constant	0.573***	0.576***	0.645***
	(0.207)	(0.204)	(0.206)
Observations	2,828	2,828	2,879
R-squared	0.0766	0.0805	0.0811
Number of firms	1,269	1,269	1,290

Note: Significance at 1 percent, 5 percent and 10 percent levels are denoted by ***, **, * respectively against the parameter estimate values.

Fixed versus Random effects model: Hausman Test Results

Interest variable	Chi-square statistic	Probability value
Homophily dummy	56.94	0.000
Inbreeding homophily	56.83	0.000
Board share	57.76	0.000

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