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Business Groups and Accounting Conservatism: Evidence from Indian Business Groups

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Abstract

In this study, we examine the conservative accounting practices of firms belonging to Indian business groups. Using the co-insurance behavior observed in Indian business groups as the setting, we show firms that have diversified their risk exposure, i.e., group firms, follow a less conservative approach than standalone firms in reporting their economic activities. The aggressiveness increases for firms that are more likely to receive help from other group members and the extent of diversification of the group. Lastly, we show that creditors of such firms demand less conservatism compared to similar standalone firms.

Introduction

Business groups are a dominant feature of the emerging world economy. Organisationally, they form a subset of firms that are exposed to a different degree of market imperfections relative to firms that are not a part of business groups (Khanna & Palepu, 2000). There has been a lot of research on the strategic and financial implications of the business group phenomenon in the management literature (Khanna & Yafeh, 2005; Gopalan et al., 2007; Chandera et al., 2018). However, accounting practices, especially the conservatism aspect of financial reporting, have not been well explored. We believe that co-insurance and tunneling incentives that are specific to business group firms alter the role or importance of accounting conservatism in safeguarding the interests of various stakeholders, especially creditors. Therefore, firms belonging to business group firms should adopt a different level of conservatism in their financial reports relative to similar standalone firms. In this study, we empirically evaluate the impact of the business group phenomenon on accounting conservatism using Indian data.

The dominant view of the existence of business groups in the emerging world is that groups help individual firms overcome the limitations imposed on them by capital and labor market imperfections and, thus, aid in their survival and growth (Khanna & Palepu, 2000). They overcome these limitations by sharing resources, tangible and intangible, among the members of the group (Khanna & Yafeh, 2005; Gopalan et al., 2007; Sur & Chauhan, 2020), and this resource-sharing is especially prominent during distress times (Khanna & Yafeh, 2005; Chandera et al., 2018). One of the most important implications of this view is that it allows firms belonging to a business group to share their business risk with other members of the group, therefore, decreasing their overall risk exposure (Lincoln et al., 1996; Jia et al., 2013;

Sur & Chauhan, 2020). This co-insurance arrangement should affect their reporting practices, especially the conservatism aspect. It is our insight that sharing of risk and resources provides group firms incentives to follow aggressive reporting practices, allowing firms to report the economic value of their assets more accurately to the financial markets, compared to firms that do not enjoy any such external support, i.e., standalone firms. Also, the demand for conservatism from creditors would be less for such firms compared to standalone firms.

Using the asymmetric timeliness of earnings developed by Basu (1997) as a measure of conservatism, we test the hypothesis that firms affiliated with business groups follow a less conservative or more aggressive approach than standalone firms. Our empirical results are consistent with this hypothesis. We also conduct additional empirical tests which examine the source of such aggressive practices. The co-insurance hypothesis argues that the source of this aggressiveness is the "sharing of resources and risk"; therefore, we examine whether this co-insurance is the force behind the such aggressive practice. To test this, we use the insight that the degree of co-insurance or support that an individual group firm would get is directly proportional to internal (the number of firms that a business group has) and external (the number of different industries in which a business group has at least one firm) diversification of the business group. The higher the number of firms a group has, the greater the risk-sharing potential. The same is true of external diversification. Therefore, if risk sharing is the source of less conservatism, then groups' internal and external diversification should be behind the negative relationship. Our empirical results show that conservatism decreases with both internal and external diversifications.

We also provide supporting evidence for the co-insurance hypothesis from the agency perspective, i.e., we test the impact of agency incentives in group firms on a firm's accounting conservatism. Prior literature on business groups has documented that the dominant shareholders, i.e., promoters in the Indian context, indulge in rent-seeking activities that shift wealth from minority shareholders to dominant shareholders (Bhaumik & Selarka, 2012). This rent-seeking behavior is aided by a pyramidal ownership structure, which allows for such rent extraction by creating a wedge between cash flow and voting rights (Khanna & Palepu, 2000). The profits are tunneled out from firms where dominant shareholders have low cash flow rights (with high control rights) to those with higher cash flow rights (Gopalan et al., 2007; Claessens et al., 2013). The cash flow rights depend directly on the promoter's stake in group firms. Thus, it is expected that the degree of co-insurance benefits that firms get within a group may vary with promoter stake, i.e., the firms with greater promoter ownership are expected to benefit

more from co-insurance than firms with lower promoter ownership. Therefore, this variation in promoter stake across group firms could be used to test the co-insurance hypothesis directly. We hypothesize that group firms with greater promoter stakes would be more aggressive in their reporting practices than those with promoters holding a lower stake. Our empirical results are consistent with this hypothesis, i.e., we observe a negative relationship between promoter stake and accounting conservatism.

Next, we examine the relationship from the demand side perspective. It has been argued and reported in the prior literature that the degree of conservatism followed by the firms depends on the demand for it from the creditors. Creditors demand conservatism as it allows early detection of bankruptcy and hence protects their interests in firms (Watts & Zimmerman, 1986; Watts, 2003a). From this, it follows that creditors' incentives to govern a firm increase with their stake in the firm and overall risk exposure, both of which are positively related to firm leverage. Accordingly, prior studies find that firms with greater financial leverage follow a more conservative approach than less levered firms (Watts, 2003b). Therefore, the important question in our research context is, how do creditors react, in terms of their demand for conservatism, to the existence of co-insurance? The availability of a co-insurance mechanism in group firms should make creditors' investments in the firm more secure. Thus, creditors' demand for conservatism may not vary with leverage in group firms, i.e., firm leverage may not be associated with greater conservatism; however, it should be positively related in standalone firms. Our empirical results are consistent with this hypothesis, i.e., the impact of firms' leverage on the degree of conservatism is statistically insignificant for business group-affiliated firms. In contrast, it is positive and statistically significant for standalone firms.

We use another novel approach to test the demand hypothesis using the Insolvency and Bankruptcy Code (IBC) implemented in India in 2016 as a quasi-natural experiment setting. We believe that IBC should affect creditors' incentives to use conservatism to safeguard their interests, as IBC strengthens their position vis-à-vis firms in the post-IBC period compared to the pre-IBC period (Jadiyappa et al., 2022; Bose et al., 2022). Therefore, the demand for conservatism from creditors should be less in the post-IBC period compared to the pre-IBC period. However, we believe this change in their power position should only affect standalone firms' conservatism. For group firms, IBC will not affect the demand for conservatism as creditors' did not demand greater conservatism in the first place in the pre-IBC period. Thus, we predict that IBC would have no significant impact on the conservatism of group firms, whereas, for standalone firms, it should be negative. Our empirical results are consistent with

these predictions, i.e., we observe that the conservatism of standalone firms has decreased in the post-IBC period. In contrast, for group firms, we observed no significant change. These analyses conclude that the demand for conservatism from creditors was less for group firms due to risk co-insurance.

Our study is related and contributes to three important streams of research in the management literature. First, prior studies in the accounting literature have approached the risk and conservatism relationship from a conservatism perspective. The financial markets, especially creditors, use conservatism to know the impending bankruptcy early (Wang et al., 2010; Wang et al., 2013; Biddle et at., 2022) and use the early signal provided by conservatism to control the risk-taking behavior of managers (Kravet, 2014) [1]. However, these studies have yet to explore how risk exposure affects their reporting practices. Or what kind of reporting policies do firms follow when they have better risk-sharing mechanisms? Answers to these questions are important because they convey the real economic value of assets to financial markets and thus help investors make informed decisions. Second, our study is related to the literature which examines the impact of the institutional environment on reporting policies. This stream has explored the impact of legal and accounting regulations on accounting conservatism (Ball et al., 2000; Ball & Shivakumar, 2005). We extend this literature by examining the impact of a different institutional arrangement, i.e., business groups, on accounting conservatism in an emerging world context. We also show that such arrangements influence their reporting practices. Last, our study is related to strategy literature, which tries to understand the determinants and consequences of group formation in the emerging world (Khanna & Yafeh, 2005; Gopalan et al., 2007; Sur & Chauhan, 2020). Our study is the first attempt to understand the impact of business group affiliation on accounting conservatism[2].

We organized the remaining part of the study as follows. The second section discusses the phenomenon of business group affiliation in emerging markets. Data and methodological aspects of our study are discussed in the third section. The results are presented and discussed in the fourth section, and last, we conclude the fifth section.

2 Group firms in emerging markets

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[1] Again, this result is driven by governance aspects of the firm, not purely by the conservatism aspect, i.e., the levered firms, which usually are forced to follow conservative reporting, make less risky acquisition decisions
[2] There are studies have found that affiliation with business groups provides an opportunity for firms to indulge in earnings management (Kim & Yi, 2007)

Business groups are a dominant part of many emerging markets economies, especially in India. From 2010 to 2012, the group firms made up about 27% of the total listed firms and controlled about 40% of the total assets (Jia et al., 2013; Jadhav & Reddy, 2017). The prior literature on strategy has proposed and tested various theories for group phenomena in emerging countries. The dominant view in strategy literature traces their origin to imperfections in their financial and legal institutions (Khanna & Yafeh, 2005; Sur & Chauhan, 2020). Sharing resources, tangible and intangible and financial and non-financial, among the group members addresses some of the institutional voids in these markets, making their activities less uncertain (Gopalan et al., 2007; Jia et al., 2013).

However, these resource-sharing arrangements, in the presence of imperfections, especially in legal aspects, could lead to agency issues whereby controlling shareholders derive private benefits at the cost of minority shareholders (Bertrand et al., 2002). Nevertheless, this agency view fails to explain why outside investors still invest in group firms if controlling shareholders are out there to exploit them. Therefore, researchers have come up with the co-insurance hypothesis to answer this question. According to this hypothesis, the resource flow between the controlling firm and members of the group and among the members is multidirectional. It depends on the need of the constituent firm. For example, if a member firm is in financial distress, then resources, both financial and non-financial, would flow from the controlling firm and other members of the group to the distressed member (Gopalan et al., 2007; Jia et al., 2013). In this sense, the group members share the business and financial risk. Empirical studies in the extant literature have found supporting evidence for agency and co-insurance views. While Bertrand et al. (2002) provide evidence consistent with the agency view, Gopalan et al. (2007) provide evidence to support the risk-sharing view. In this context, Jia et al. (2013) argue that the firm's health determines the direction of the flow of resources; thus, it is bi-directional.

In the same stream of the literature, other researchers have examined the implications of co-insurance or risk sharing on various firm-level outcomes. It has been shown in the literature that risk sharing among group firms has resulted in a lower cost of debt (Byun et al., 2013; Chandera et al., 2018), a greater proportion of long-term debt (Sur & Chauhan, 2020), decreased volatility of operating profits (Khanna & Yafeh, 2005), and lesser bankruptcy risk (Lincoln et al., 1996; Gopalan et al., 2007). Overall, this risk-sharing hypothesis might explain the observed value premium for group firms in the capital markets by various studies (Claessens et al., 2003; Fauver et al., 2003). However, the extant literature has yet to explore the impact of resource and risk sharing in group firms on their reporting practices. If risk

sharing among group firms reduces firms' exposure to operational and business risk, as has been argued in the literature, then it should affect their accounting conservatism negatively.

3 Data and methodology

3.1 Data

We take the data required to examine our research objective from the prowess database, which provides public data on Indian firms. We start with all the firms listed on the National Stock Exchange (NSE) between 2012 to 2019. From this master sample, we exclude financial firms, observations with negative net worth, and any observations with a missing value. Our final sample comprises 11,250 firm-year observations for 1,555 unique firms.

The prowess database provides information regarding the affiliation status of each firm that it has covered. Broadly, we have four categories of firms based on affiliation status. They are business groups, private Indian, private foreign, and public firms owned by governments. In our study, the first one makes up the group sub-sample, and the last three make up the standalone sub-sample[3]. Out of 11,250 firm-year observations, 4,692 firm-year observations for 646 unique firms are group firms and 6,558 firm-year observations for 909 unique firms are standalone. The summary statistics of the sample, winsorized at 1% at both ends, are presented in Table 1.

(Table 1 Here)

We also provide decomposed summary statistics for the group and standalone firms in Table 2. We find that standalone firms are more profitable, have a higher average market return, and grew faster than business group firms during the study period. However, the business group firms are bigger, have a greater proportion of tangible assets, spend more on R&D activities, have a greater MB ratio, and have bigger boards than standalone firms. We find no statistically significant difference between the two groups in leverage, cash ratio, dividend payout ratio, and board independence.

(Table 2 Here)

3.2 Model specification

We use the widely used Basu's asymmetric timeliness of returns measure of conservatism to examine our objective. The fundamental insight of this measure is that if firms follow

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[3] Our results remain robust for the exclusion of government firms from our analysis

conservative accounting policies, then actual earnings should take less time to reflect negative returns than positive returns (Roychowdhury & Watts, 2007). Empirically, this insight is operationalized by interacting stock returns with a dummy variable (Negative dummy) which takes value one for negative returns and zero for positive returns and regressing these variables on firm earnings.

To examine our objective, we use the triple interaction term, i.e., returns, negative dummy, and group dummy, which gives a differential slope coefficient for the group firms. Our hypotheses predict a negative sign for this triple interaction coefficient, i.e., β_7 in Eq. (1). Specifically, we use the following regression model in our analyses

$Earnings\_Ratio_{it} = \alpha_i + \beta_1 Ret_{it} + \beta_2 Group\_Dum_i + \beta_3 Neg\_Dum_{it} + \beta_4 Group\_Dum_i * Ret_{it} + \beta_5 Neg\_Dum_{it} * Ret_{it} + \beta_6 Group\_Dum_i * Neg\_Dum_{it} + \beta_7 Group\_Dum_i * Neg\_Dum_{it} * Ret_{it} + \beta_8 Size_{it} + \beta_9 Tangibility_{it} + \beta_{10} RD\_Exp_{it} + \beta_{11} Leverage_{it} + \beta_{12} MB_{it} + \beta_{13} Growth_{it} + \beta_{14} Cash\_Ratio_{it} + \beta_{15} DPR_{it} + \beta_{16} Board\_Ind_{it} + \beta_{17} Board\_Size_{it} + \epsilon_{it}$

(1)

All variables are defined in Table 1. Prior literature shows that the reporting practices of a firm depend on its size, asset specificity (Tangibility and R&D expenses), growth opportunities (MB ratio, growth, and DPR), absolute risk exposure (leverage and cash ratio), and corporate governance (Board_Ind and Board_Size). Therefore, we add these variables as control variables to the estimation model. Also, it has been observed that reporting practices of a firm are very much related to industry practices and affected by year-specific events. Therefore, we add industry and year dummies to the regression model. The coefficients are estimated using the pooled OLS estimator[4]. The standard errors, adjusted for possible heteroscedasticity, are clustered at the industry level.

4 Results and discussions

Our study tries to answer the central question: Do group firms follow aggressive reporting practices compared to standalone firms? If they are, the earnings must adjust to negative stock prices slower than positive ones compared to standalone firms. The results are presented in Table 3.

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[4] We do not use the fixed effects estimator in our study for two reasons. First, the group affiliation status is a time-invariant factor; hence, group affiliation status largely contributes to the fixed effects. Therefore, the impact of group affiliation would be absorbed in the fixed effects intercept leading to a biased estimation of the group affiliation effect. Second, industry factors influence firms' reporting practices to a large extent. The industry dummies are dropped from the estimation model due to collinearity issues if we use the fixed effects estimator

Consistent with the existing theory and prior literature, the coefficient of *Ret* is positive and statistically significant in all the models. The coefficient of the interaction term *Neg_Dum*Ret* is also positive, implying that, in general, Indian firms follow conservative reporting practices as the negative stock return is reflected more quickly in earnings compared to positive stock returns. Also, the positive coefficient of *leverage* indicates that conservatism increases with absolute risk exposure, which is consistent with the findings of the prior studies (Watts, 2003a; Beatty et al., 2008). To examine our main hypothesis, i.e., differential conservatism for group firms, we interact *Neg_Dum*Ret* with the group dummy and add this triple interaction variable, i.e., *Group_Dum*Neg_Dum*Ret,* to the model. We observe that the triple interaction coefficient is negative and statistically significant in all models. This implies that the negative shocks in group firms take longer to get reflected in their earnings compared to standalone firms, i.e., group firms follow aggressive reporting practices. Our results may imply that in the presence of risk-sharing mechanisms, firms become less conservative in their reporting practices.

(Table 3 Here)

4.1 Co-insurance and accounting conservatism

It has been our central argument that risk sharing among group firms is the primary source that allows firms to be more aggressive in their reporting. Therefore, we must establish this relationship empirically. To test this, we use the insight that the level of risk sharing among group firms depends directly on the number of firms that the group has. The higher the number of firms operating under a group, the greater the level of risk sharing. Therefore, if risk-sharing is the source behind the observed aggressiveness among group firms, then firms in groups with more members should be more aggressive in their reporting compared to firms in groups with fewer firms. To examine this, we create a new variable by counting the number of firms each business group has, i.e., *Total_Firms,* and interact this variable with *Neg_Dum*Ret*. If risk sharing is the real reason behind the observed less conservatism of group firms in table 3, then this triple interaction term should be negative and statistically significant. The results are presented in the first two columns of Table 4.

(Table 4 Here)

Consistent with the risk-sharing hypothesis, the triple interaction coefficient is negative and statistically significant in both columns implying that the level of aggressiveness is positively related to the number of firms operating in a group.

However, the traditional diversification theory in finance argues that the diversification of risk requires that the portfolio consists of firms from different industries so that they are not exposed to the same demand shocks. The diversification measure we used in Table 4 does not account for this aspect. Therefore, to account for this, we create another diversification variable that considers across-industry diversification, i.e., *Ind_Diversification*. In this, we count how many different industries a business group has its presence in. The higher the count, the greater the across-industry diversification. To construct this, we follow the National Industrial Classification (NIC) codes to identify the industry to which firms belong[5]. We run the regression analysis again using this new diversification measure. The results presented in the last two columns of table 4 are consistent with the theoretical arguments, i.e., firms in more diversified business groups follow less conservative accounting than firms in less diversified business groups. The results in Table 4 imply that the higher conservatism in group firms depends on the length (total number of firms present in each group) and breadth (number of firms belonging to different industries) of the group's diversification and, thus, consistent with the co-insurance hypothesis.

There is a possible alternate explanation for the observed negative relationship between conservatism and group affiliation from the agency perspective. It has been reported in the literature that in the context of business groups, the dominant shareholders, who control the entire group through a pyramidical ownership pattern, expropriate wealth from minority shareholders by tunneling profits from firms in which they have lower cash flow rights to the firms in which they have greater cash flow rights (Bertrand et al., 2002). These incentives to tunnel profit may affect the conservatism of their financial reporting. For example, the firms may use more aggressive reporting, positively correlated with the current earnings, to tunnel more profits. Therefore, the observed negative relationship between conservatism and group firms could be attributable to this agency issue in business groups. Therefore, we conduct additional analysis to examine whether the agency issue contributes to this negative relationship.

The insight is that if tunneling incentives are behind the observed negative relationship, then the group firms from which they tunnel out profit to other firms should have more aggressive accounting practices than those which are the beneficiaries of tunneling. Theoretically, it has been argued in the literature that the tunneling phenomenon is determined by the percentage of

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[5] NIC system assigns 5-digit industry codes to each firm. We employ a three-digit classification system to categorize firms into different industries

ownership held by the promoters (Ghosh, 2010; Bertrand et al., 2002). The cash flow rights vary directly with the percentage of promoter ownership; therefore, firms in which promoters have lower ownership are subjected to tunneling out, and high ownership firms tunneling in. From this, it follows that if the negative relationship between conservatism and group affiliation is due to agency issues, we should observe greater aggressiveness in firms where group promoters have a lower ownership stake[6]. Therefore, we examine this hypothesis by interacting promoter ownership with the *Neg_Dum*Ret* variable. The results are presented in Table 5.

(Table 5 Here)

The triple interaction coefficient in the first two columns is negative and statistically significant, implying that the aggressiveness is greater in firms where promoters have a greater stake than in firms where promoters have a lower stake. This is opposite to what the agency hypothesis has predicted, i.e., greater aggressiveness for low promoter stake firms. Therefore, agency issues may not be the source of aggressive conservatism observed in group firms.

More importantly, this negative association between conservatism and promoter ownership in group firms is in line with the co-insurance hypothesis. Under this hypothesis, the firms that are likely to receive more support, i.e., firms with high promoter stakes, follow aggressive reporting behavior. Hence, from this analysis, we may conclude that risk sharing among group firms shapes the reporting behavior of group firms in the Indian context.

4.2 Business group affiliation and demand for accounting conservatism

4.2.1 Firm Leverage and accounting conservatism analysis

How do creditors respond, in terms of their demand for accounting conservatism, to the existence of a risk diversification mechanism? Creditors demand conservatism to safeguard their interests, as conservative practices flag probable bankruptcy early. Therefore, when there is a risk-sharing mechanism like co-insurance among group firms, the probability and the cost of bankruptcy decrease for creditors. Thus, they don't demand more conservatism. Hence, in

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[6] This is a joint test of agency and co-insurance hypotheses. In the co-insurance hypothesis, the probability of support that firms would get from other group firms determines the conservatism. Firms that are more likely to get help from other firms, i.e., firms which high promoter stakes, exhibit less conservatism than firms that are less likely to get support. Therefore, observing a negative relationship between promoter stake and conservatism would support the co-insurance hypothesis

this section, we examine the impact of co-insurance on demand for conservatism from creditors.

Creditors' demand for conservatism increases with the degree of financial leverage, and therefore, we use firm Leverage as a proxy to measure creditors' demand for conservatism (Yuliarti & Yanto, 2017). First, we examine the relationship between leverage and degree of conservatism in standalone firms in columns 1 and 2 of table 6. The coefficient of the triple interaction term in both models is positive, implying that the degree of conservatism increases with the degree of leverage. This result is consistent with the findings of (Beatty et al., 2008). In columns 3 and 4, the result for group firms is presented. Here we observe that the conservatism coefficient, i.e., the coefficient of the triple interaction term, is statistically insignificant, implying that the degree of conservatism does not change with the degree of financial leverage in group-affiliated firms. This analysis indicates that creditors view the existence of co-insurance mechanisms favorably and hence may not insist on conservatism to safeguard their interests in business group firms.

<center>(Table 6 Here)</center>

4.2.2 Business group affiliation, Insolvency and Bankruptcy Code (IBC), and accounting conservatism

In this section, we use a different approach to examine how creditors treat group firms using the Insolvency and bankruptcy code implemented in 2016 in India as a quasi-natural experiment setting. The fundamental insight is that the demand for conservatism from creditors is a function of how strong their rights are in bankruptcy proceedings. If creditors enjoy stronger rights, they depend less on conservatism to safeguard their interests than in a situation with weak rights. Therefore, implementing IBC, which strengthens creditors' rights, should alter creditors' demand for conservatism. However, the change in creditors' demand is not uniform across the group and standalone firms. The co-insurance hypothesis predicts that the change in creditors' rights would have a lesser impact on group-affiliated firms as creditors were less concerned about these firms even before the IBC. For standalone firms, the demand for conservatism should decrease in the post-IBC period as creditors have stronger rights in IBC to secure their interests. Therefore, if creditors' demand for conservatism is less for group firms, then there should be no significant change in the conservatism of group firms between the pre and post-IBC periods. For standalone firms, there should be a significant change.

<center>11</center>

To test this, we interact the *Neg_Dum*Ret* variable with *Reg_Dummy* (an indicator variable that takes the value of one for the post-IBC period, i.e., 2016-2019, and zeros for the pre-IBC period, i.e., 2012-2015) and the results are presented in Table 7.

(Table 7 Here)

Consistent with the demand hypothesis, we observe no statistically significant change in the conservatism of group firms between the pre and post-IBC periods. Whereas for standalone firms, there is a significant decrease in conservatism.

These analyses show that the demand for conservatism from creditors is lower for group firms compared to standalone firms. We can attribute this lower demand for the risk-sharing phenomenon among group firms.

5 Conclusions

In this study, we have examined the reporting practices of Indian business group firms and found that they follow aggressive accounting practices compared to standalone firms. Through additional analyses, we attribute this aggressiveness to the risk-sharing phenomenon among group firms. This is the first study that examines the impact of risk-sharing mechanisms on reporting practices of corporate firms. However, more studies are needed to establish this relationship clearly. For example, is this negative relationship between risk and conservatism exists only in business groups or also in standalone firms with other mechanisms to reduce their risk exposure? How do capital markets value such a relationship? Does this relationship is governed by other conditioning factors like corporate governance?

Table 1: Summary statistics

Variable	Definitions	N	Mean	SD
Earnings Ratio	PBIT/Market capitalization	11,250	0.196	0.293
Return	Buy and hold return for the year	11,250	0.214	0.870
Size	Log of firm sales	11,250	7.691	2.260
Tangibility	Net fixed assets/Total assets	11,250	0.284	0.193
RD_Exp	R&D expenses/Total assets[7]	11,250	0.003	0.008
Leverage	Total debt/ Total assets	11,250	0.201	0.167
MB	Market to book ratio of equity	11,250	3.128	5.023
Growth	The annual growth rate in sales	11,188	0.101	0.419
Cash_Ratio	Cash and short-term investments/ Total assets	11,250	0.086	0.120
D	Total dividends paid/Total assets	11,250	0.039	0.044
Board_Ind	The proportion of independent board members	11,250	0.746	0.154
Board_Size	Log of total members on the board	11,250	2.249	0.331

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[7] Zeros replace missing R & D values

Table 2: Summary statistics for group and standalone firms

Variable	Business group firms			Standalone firms			Difference
	N	Mean	SD	N	Mean	SD	Mean
Earnings Ratio	4,692	0.182	0.279	6,558	0.205	0.302	-0.023**
Ret	4,692	0.181	0.706	6,558	0.238	0.969	-0.058***
Size	4,692	8.588	2.098	6,558	7.049	2.150	1.539***
Tangibility	4,692	0.299	0.192	6,558	0.273	0.193	0.026**
RD_Exp	4,692	0.003	0.009	6,558	0.002	0.008	0.001**
Leverage	4,692	0.202	0.167	6,558	0.200	0.166	0.002
MB	4,692	3.311	4.949	6,558	2.997	5.072	0.314**
Growth	4,673	0.088	0.351	6,515	0.110	0.462	-0.022**
Cash_Ratio	4,692	0.085	0.119	6,558	0.086	0.121	-0.001
D	4,692	0.039	0.042	6,558	0.038	0.045	0.000
Board_Ind	4,692	0.767	0.136	6,558	0.731	0.164	0.036
Board_Size	4,692	2.349	0.295	6,558	2.176	0.336	0.173*

Table 3: Business groups and accounting conservatism
The coefficients are estimated by using pooled OLS estimator, and the t-values calculated from heteroscedasticity-adjusted robust standard errors are presented in parentheses. ***,**, and * denote significance at 1%, 5% and 10% respectively.

VARIABLES	Model I	Model II	Model III	Model IV
	Earning_Ratio	Earning_Ratio	Earning_Ratio	Earning_Ratio
Ret	0.063***	0.057***	0.056***	0.055***
	(7.249)	(7.252)	(7.271)	(7.107)
Group_Dum	-0.057***	-0.035***	-0.045***	-0.043***
	(-5.167)	(-3.646)	(-4.786)	(-4.557)
Neg_Dum	-0.017	-0.016*	-0.024**	-0.021**
	(-1.565)	(-1.709)	(-2.518)	(-2.290)
Group_Dum*Ret	0.051***	0.040***	0.043***	0.041***
	(3.343)	(3.097)	(3.311)	(3.316)
Neg_Dum*Ret	0.131***	0.112***	0.109***	0.110***
	(5.788)	(5.298)	(5.256)	(5.345)
Group_Dum*Neg_Dum	0.018	0.018	0.024*	0.025*
	(1.121)	(1.293)	(1.790)	(1.883)
Group_Dum*Neg_Dum*Ret	-0.144***	-0.077**	-0.079**	-0.074**
	(-4.071)	(-2.359)	(-2.481)	(-2.343)
Size		0.015***	0.011***	0.008***
		(9.755)	(7.546)	(4.782)
Tangibility		-0.019	-0.019	-0.018
		(-1.314)	(-1.315)	(-1.065)
RD_Exp		-2.473***	-2.572***	-1.930***
		(-10.898)	(-11.091)	(-6.806)
Leverage		0.587***	0.554***	0.457***
		(26.085)	(25.017)	(20.220)
MB		-0.012***	-0.010***	-0.009***
		(-17.848)	(-16.775)	(-14.474)
Growth		0.038***	0.038***	0.040***
		(5.453)	(5.601)	(5.822)
Cash_Ratio		-0.088***	-0.106***	-0.069***
		(-4.308)	(-5.188)	(-3.178)
DPR		2.208***	2.205***	2.168***
		(25.007)	(25.472)	(23.947)
Board_Ind		-0.112***	-0.047***	-0.037**
		(-6.976)	(-2.911)	(-2.335)
Board_Size		-0.141***	-0.094***	-0.075***
		(-14.418)	(-9.459)	(-7.393)
Constant	0.216***	0.347***	0.251***	0.158***
	(29.262)	(15.052)	(10.622)	(5.384)
Observations	11,250	11,188	11,188	11,188
R-squared	0.079	0.280	0.308	0.365
Year FE	No	No	Yes	Yes
Ind FE	No	No	No	Yes

Table 4: Group diversification and accounting conservatism

VARIABLES	No of firms in a group		No of firms in different industries	
	Earnings Ratio	Earnings Ratio	Earnings Ratio	Earnings Ratio
	(1)	(2)	(3)	(4)
Total_Firms	-0.007***	-0.004***		
	(-5.594)	(-3.054)		
Ret*Total_Firms	0.003	0.002		
	(1.256)	(0.948)		
Neg_Dum*Total_Firms	0.004***	0.003*		
	(2.692)	(1.671)		
Neg_Dum*Ret*Total_Firms	-0.009**	-0.008**		
	(-2.374)	(-2.220)		
Ind_Div			-0.002***	-0.001***
			(-6.706)	(-4.066)
Ret*Ind_Div			0.001	0.001
			(1.561)	(1.106)
Neg_Dum*Ind_Div			0.001***	0.001
			(2.586)	(1.612)
Neg_Dum*Ret*Ind_Div			-0.002*	-0.002*
			(-1.864)	(-1.784)
Ret	0.104***	0.088***	0.102***	0.087***
	(6.170)	(6.615)	(6.412)	(6.992)
Neg_Dum	-0.013	-0.009	-0.015	-0.009
	(-0.901)	(-0.757)	(-0.996)	(-0.708)
Neg_Dum*Ret	0.017	0.068**	0.016	0.072**
	(0.522)	(2.273)	(0.435)	(2.194)
Size		0.003		0.004
		(1.098)		(1.420)
Tangibility		-0.014		-0.019
		(-0.505)		(-0.702)
RD_Exp		-2.537***		-2.513***
		(-7.505)		(-7.010)
Leverage		0.433***		0.425***
		(12.270)		(11.936)
MB		-0.008***		-0.008***
		(-7.873)		(-7.649)
Growth		0.041***		0.042***
		(3.436)		(3.501)
Cash_Ratio		-0.051		-0.058
		(-1.337)		(-1.494)
D		2.256***		2.260***
		(14.661)		(14.544)
Board_Ind		-0.028		-0.027
		(-1.041)		(-0.988)
Board_Size		-0.089***		-0.088***
		(-5.661)		(-5.593)
Constant	0.183***	0.211***	0.196***	0.206***
	(17.448)	(4.555)	(17.765)	(4.412)
Observations	4,692	4,673	4,631	4,612
R-squared	0.085	0.384	0.092	0.385
Year FE	Yes	Yes	Yes	Yes
Ind FE	Yes	Yes	Yes	Yes

Table 5: Promoter ownership and accounting conservatism

Variables	Business group firms		Standalone firms
	Earnings_Ratio	Earnings_Ratio	Earnings_Ratio
	(1)	(2)	(3)
Ret	0.107**	0.072*	0.007
	(2.138)	(1.843)	(0.420)
Promoter_Stake (%)	-0.000	0.000	-0.001***
	(-0.040)	(0.204)	(-3.226)
Ret*Promoter_Stake	0.000	0.000	0.001***
	(0.152)	(0.591)	(3.433)
Neg_Dum	0.040	0.021	-0.086***
	(0.925)	(0.556)	(-2.856)
Neg_Dum*Ret	0.211**	0.224**	0.099*
	(2.122)	(2.546)	(1.661)
Neg_Dum*Promoter_Stake	-0.001	-0.000	0.001**
	(-0.984)	(-0.657)	(2.564)
Neg_Dum*Ret*Promoter_Stake	-0.004**	-0.003**	0.000
	(-2.419)	(-2.193)	(0.218)
Size		0.003	0.013***
		(1.061)	(5.696)
Tangibility		-0.010	-0.018
		(-0.377)	(-0.778)
RD_Exp		-2.582***	-1.691***
		(-7.623)	(-3.731)
Leverage		0.436***	0.472***
		(12.380)	(15.442)
MB		-0.008***	-0.009***
		(-7.918)	(-11.126)
Growth		0.040***	0.036***
		(3.387)	(4.402)
Cash_Ratio		-0.052	-0.074***
		(-1.350)	(-2.620)
DPR		2.248***	2.167***
		(14.503)	(19.014)
Board_Ind		-0.031	-0.034*
		(-1.136)	(-1.699)
Board_Size		-0.088***	-0.077***
		(-5.510)	(-5.682)
Constant	0.161***	0.198***	0.157***
	(5.128)	(3.491)	(3.547)
Observations	4,672	4,653	6,486
R-squared	0.082	0.384	0.385
Year FE	No	Yes	Yes
Ind FE	No	Yes	Yes

Table 6: Business group affiliation, firm Leverage, and accounting conservatism

VARIABLES	Standalone firms		Business group firms	
	Earnings Ratio	Earnings Ratio	Earnings Ratio	Earnings Ratio
	(1)	(2)	(3)	(4)
Ret	0.044***	0.025**	0.107***	0.076***
	(3.685)	(2.576)	(5.923)	(5.249)
Neg_Dum	-0.025*	-0.004	0.005	0.014
	(-1.755)	(-0.323)	(0.344)	(0.968)
Neg_Dum*Ret	0.061**	0.040	-0.022	-0.025
	(2.032)	(1.454)	(-0.549)	(-0.710)
Leverage	0.306***	0.532***	0.272***	0.502***
	(6.848)	(11.484)	(5.368)	(9.716)
Ret*Leverage	0.115**	0.162***	0.034	0.094
	(2.417)	(3.715)	(0.487)	(1.574)
Neg_Dum*Leverage	-0.040	-0.072	-0.102	-0.086
	(-0.573)	(-1.083)	(-1.364)	(-1.205)
Neg_Dum*Ret*Leverage	0.295*	0.302**	0.210	0.238
	(1.926)	(2.035)	(1.214)	(1.484)
Size		0.012***		0.003
		(5.407)		(1.094)
Tangibility		-0.028		-0.013
		(-1.226)		(-0.479)
RD_Exp		-1.543***		-2.488***
		(-3.420)		(-7.413)
MB		-0.010***		-0.009***
		(-12.276)		(-8.101)
Growth		0.039***		0.042***
		(4.910)		(3.555)
Cash_Ratio		-0.077***		-0.037
		(-2.769)		(-0.968)
DPR		2.223***		2.280***
		(19.591)		(14.834)
Board_Ind		-0.035*		-0.033
		(-1.730)		(-1.243)
Board_Size		-0.077***		-0.088***
		(-5.748)		(-5.610)
Constant	0.121***	0.104***	0.129***	0.192***
	(4.524)	(2.703)	(4.380)	(4.144)
Observations	6,558	6,515	4,692	4,673
R-squared	0.283	0.395	0.288	0.389
Year FE	Yes	Yes	Yes	Yes
Ind FE	Yes	Yes	Yes	Yes

Table 7: Group affiliation, IBC, and accounting conservatism

VARIABLES	Group firms	Standalone firms
	Earnings Ratio	Earnings Ratio
Ret	0.082***	0.065***
	(5.742)	(7.316)
Neg_Dum	-0.027*	-0.016
	(-1.726)	(-1.142)
Neg_Dum*Ret	0.081**	0.162***
	(2.145)	(5.533)
Reg_Dummy	-0.129***	-0.085***
	(-7.461)	(-5.485)
Reg_Dummy*Ret	0.027	-0.025*
	(1.354)	(-1.760)
Neg_Dum*Reg_Dummy	0.052***	-0.010
	(2.653)	(-0.539)
Neg_Dum*Reg_Dummy*Ret	-0.080	-0.117***
	(-1.578)	(-2.889)
Leverage	0.437***	0.472***
	(12.370)	(15.502)
Size	0.003	0.012***
	(0.962)	(5.476)
Tangibility	-0.012	-0.022
	(-0.429)	(-0.962)
RD_Exp	-2.537***	-1.774***
	(-7.501)	(-3.797)
MB	-0.008***	-0.009***
	(-7.889)	(-11.297)
Growth	0.039***	0.037***
	(3.339)	(4.579)
Cash_Ratio	-0.047	-0.081***
	(-1.227)	(-2.886)
D	2.248***	2.147***
	(14.638)	(19.054)
Board_Ind	-0.031	-0.035*
	(-1.167)	(-1.719)
Board_Size	-0.091***	-0.079***
	(-5.790)	(-5.815)
Constant	0.229***	0.114***
	(5.050)	(2.752)
Observations	4,673	6,515
R-squared	0.386	0.385
Year FE	Yes	Yes
Ind FE	Yes	Yes

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