Market value and related party's transactions: a panel data approach

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Abstract

Purpose – This research aims to examine the impact of RPTs and board of directors' characteristics on the market value of Indian listed banks. Further, this study evaluates the moderation effect of board composition on the association between RPTs banks' market value.

Design/methodology/approach – The sample size consists of 38 banks listed on Bombay stock exchange. The current study is based on secondary data for ten years from 2010 to 2019. Generalized Method of Moment (GMM) was used for estimating the results.

Findings – Subsidiary transactions, board of directors' size, composition, diligence, promoters, remuneration and banks' size and leverage have a significant impact on the market value of Indian listed banks. Further, board of directors' composition positively moderates the association between RPTs and banks value measured by Tobin's. Furthermore, corporate governance characteristics have a significant impact on RPTs measured by total RPTs and all subsidiary transactions.

Research limitations/implications – This research is limited only to listed banks whose data are available in the ProwessIQ database, which makes it difficult to generalize the findings on other unlisted banks. This research helps policymakers, investors and creditors to categorize RPTs into different groups to identify the harmful and beneficial once to the bank. The findings suggest that policymakers, investors and creditors should not consider all key personal transactions as harmful transactions; instead, the policymakers, investors and creditors should consider all subsidiary transactions as harmful in the absence of independent directors.

Originality/value – The present study contributes to the existing literature on RPTs by evaluating the interaction effect of board composition on the association between related party transactions and banks' value. Further, this research focuses on the financing industry; Indian banks, which has not been sufficiently researched in comparison to the non-financing industries.

Keywords Market value, RPTs, Corporate governance, Indian listed banks

Paper type Research paper

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1. Introduction

According to the transaction efficiency hypothesis, related party transactions (RPTs) improve efficiency by lowering transaction costs and improve ideal business contracts by gaining more insight into linked parties. According to Diab *et al.* (2019) and Alhadab *et al.* (2020), there is no association between RPTs and firms' value, whereas Wang *et al.* (2020) and Hope and Lu (2020) argue that RPTs make resource transfers between affiliates more affordable and raise firm market value. On the contrary, the conflict of interest hypothesis argues that related parties utilize their power to expropriate corporate resources for their advantage, increasing agency costs and diminishing firm value (Fooladi and Farhadi, 2019). RPTs are considered as direct indicators of wealth exploitation (El-Helaly, 2018; Saleh, 2021). Opportunistic management conduct was an essential aspect in asset theft and providing false financial statements in the latest scams at Health South, Enron and other businesses (Swartz and Watkins, 2003). MASB (2008) noted that related parties may participate in transactions that unrelated parties might not participate in. Even if RPTs do not exist, a related-party partnership can have an impact on a firm's financial status. Furthermore, Cheung *et al.* (2009) argued that associated parties tend, for their reasons, to divert assets away from the company and inflict residual losses on other stakeholders. These fraudulent activities of related parties will reduce the business value. Therefore, to enforce an appropriate surveillance mechanism and minimize the opportunistic actions of similar parties in RPTs, it is also essential to have a robust internal control system (Kohlbeck and Mayhew, 2010). Huang and Liu (2010) clarified the critical role of Corporate Governance (CG) in controlling the RPT process. They reported that related parties have more possibilities of expropriation through RPTs in a faulty CG mechanism. Based on the arguments of Kohlbeck and Mayhew (2010) and Huang and Liu (2010), the authors were motivated to use board of directors' composition as a moderator variable.

Hence, this research intends to fill a gap in the literature by addressing the following questions.

(1) Do RPTs have a negative impact on banks' value?

(2) Do board of directors' characteristics have a negative impact on banks' value?

(3) Does board of directors' composition moderate the association between RPTs and banks' value?

(4) Do board of directors' characteristics have a negative impact on RPTs?

By addressing the above questions, this research contributes to the existing literature in many ways. Firstly, the study investigates the moderation effect of board of directors' composition on the association between RPTs and banks' value. In order to see if the presence of more independent board directors would control the RPT process so that RPTs can improve efficiency and improve ideal business contracts which go in line with transaction efficiency hypothesis. According to Mishra and Kapil (2018), the independent directors' capacity for review and monitoring authority contributes to increased business value. The internal monitoring system and board independence, according to Kohlbeck and Mayhew (2004), Gordon *et al.* (2004) and Gallery *et al.* (2008), limit the size of R.P.Ts. Gordon *et al.* (2004) discovered a negative correlation between the size of R.P.Ts and the number of independent directors on the board.

Secondly, researchers argue that corporate governance in the Indian banking industry has been overlooked, prompting researchers to investigate the corporate governance structure in India to fill an existing gap in the research since the majority of the published research focuses on non-financial corporates (e.g. Almaqtari *et al.*, 2020; Al-ahdal and Prusty, 2020; Farhan *et al.*, 2020; Widyaningsih *et al.*, 2017). Thirdly, this study extends the literature on RPTs by demonstrating the influence of RPTs on the value of Indian banks depending on the types of RPTs, which will allow owners, directors and managers to have a clearer understanding of the techniques that strengthen the framework of corporate governance, especially with respect to different RPTs.

This research is structured as follows. After the introduction provided in section 1, section 2 reviews the existing relevant literature on banks' value and RPTs. Moreover, section 3 outlines the research methodology. Section 4 presents and interprets the results, while section 5 concludes this research.

2. Literature review and hypotheses development

2.1 RPTs and market value

Numerous studies have investigated several corporate governance issues in different countries (e.g. Almaqtari *et al.*, 2021; Abdallah and Ismail, 2016; Juhmani, 2020; Al-Saidi, 2020; Almoneef and Samontaray, 2019; Hassan *et al.*, 2017; Qasim *et al.*, 2019) but the results of these studies vary from country to another, which motivated the authors to review studies that are related to RPTs and market value. Tariq and Mousa (2020) investigated the relationship between RPTs and the market value of 261 businesses from 2015 to 2018. The findings revealed that two types of RPTs, key management remuneration and (due to-payables), have a significant impact on a company's market value. Similarly, Jian and Wong (2004) discovered a negative and significant relationship between loans given to related parties and the value of 137 Chinese companies listed between 1997 and 2000. Gordon *et al.* (2007) investigated the relationship between RPTs and the value of 112 publicly traded firms in the United States from 2000 to 2001. They discovered that RPTs are inversely related to abnormal stock market returns. This outcome was achieved for operations involving both executive and non-executive directors. Furthermore, Sharkar *et al.* (2007) argued that not all RPTs are harmful to the business. Moreover, they viewed RPTs transactions as an important element in the success of companies.

Mahtani (2022) examined if the companies have a pattern that can be an indicator of ensuing financial distress by using RPTs toward sales, loans, or payments of 18 companies in financial distress and combining them with 15 financially stable companies in the same sector. According to the study, several companies in India have declared bankruptcy due to financial distress. Investigations revealed that many of these infrastructure companies had large amounts of RPTs (RPTs) before and during the financial crisis. Bona-Sánchez *et al.* (2017) investigated RPTs in Spain. According to the study, more than half of the listed firms committed to RPTs. The results report that connected transactions between listed firms and their blockholders account for 99.84% of total RPTs. The findings also showed that RPTs are driven by insider opportunism, regardless of the dimension (financial, operational, or investment) affected by the presence of RPTs. Similarly, Gavana *et al.* (2022) reports that firms in Italy use RPTs in conjunction with downward accrual earnings management or as a substitute for real earnings management caused by sales forecasts and discretionary expense reductions, as well as an independent form of earnings manipulation. Ismail *et al.* (2022) also discovered a negative relationship between RPTs and firm value. The study also discovered that the presence of RPTs as a moderating variable increases the effect of politically connected corporates on firm value. Egyptian firms are heavily influenced by politically connected boards of directors or owners, and this is especially true when RPTs are involved; however, corporate governance practices can mitigate such effects. Consistently, Salehi *et al.* (2021) indicate that the underlying theories of agency and conflict of interest imply that directors should use optimal contracts and play a monitoring role to mitigate potential misreporting through RPTs. Affiliate transactions of firms may be included in director compensation packages. This could be due to that skilled directors may exploit agency conflicts to create wealth for themselves. Hence, the following hypotheses are formulated:

H01. **All key personal party transactions** have an insignificant impact on the market value of Indian banks.

H02. **All subsidiary transactions** have an insignificant impact on the market value of Indian banks.

2.2 Board of directors' characteristics and market value

According to Adams and Mehran (2005), the size of a bank's board of directors is positively and significantly related to its performance. Andres and Vallelado (2008) discovered an inverted U-shaped relationship between company finances and board size using a two-step approach estimator model. Malik *et al.* (2014) found a positive relationship between board size and bank profitability in a sample of 14 Pakistani-listed banks from 2008 to 2012. According to Balasubramanian and George (2012), the board of directors is critical in maintaining the relationship between the company's shareholders and management. Adams and Mehran (2012) consistently concluded that the size or magnitude of the board has a positive relationship with their eventual performance. In the context of board independence, Al-Saidi and Al-Shammari (2013) report that board independence has a negative impact on bank performance, whereas duality has a positive impact on bank performance. Cornett *et al.* (2009) also indicate that board independence has a positive impact on earning quality. Francis *et al.* (2012) discovered that a board with more independent directors is positively associated with financial performance using buy-and-hold returns. Using data from a survey of 50 large Chinese banks, Liang *et al.* (2013) discovered that the independent directors' ratio has a significant impact on bank profitability and asset quality. In the same quest, Salehi *et al.* (2022b) indicates that board independence moderates the relationship between investment efficiency and firm value. Consistently, Salehi *et al.* (2018) report that board independence, expertise and diversity could contribute to the firms' value can in a variety of ways, including more efficient use of cash resources and better investment decisions. As a result of the foregoing discussion, the authors believe that few studies address the impact of board of directors' characteristics on bank value, prompting the researchers to develop the following hypotheses to investigate the impact of board of directors' characteristics on bank value in India.

H03. **Board of directors' size** has an insignificant impact on the market value of Indian banks.

H04. **Board of directors' composition** has an insignificant impact on the market value of Indian.

H05. **Promoters** have an insignificant impact on the market value of Indian banks.

H06. **Directors' remuneration** has an insignificant impact on the market value of Indian banks.

2.3 Moderation effect of board composition on the association between RPTs and banks' value

Fooladi and Farhadi (2019) investigated the moderating effect of CG features on the relationship between RPTs and business value. According to the findings, a company's value is positively related to beneficial RPTs (BRPTs) and negatively related to harmful RPTs. Islam (2020) investigated the relationship between corporate governance performance, RPTs and shareholder activism in publicly traded companies in India. According to the findings, there is a significant difference in total CGP between companies that have been subjected to shareholder activism and those that have not. Jeon (2019) attempted to assess whether appropriate governance frameworks are in place. This article demonstrates that the independence and skill of the board of directors are related to fewer RPTs. In the same context, Idris *et al.* (2020) studied the impact of an independent of directors on business value as measured by Tobin's Q. The study emphasizes the importance of independent directors in increasing a company's value. Similarly, Muniandy and Hillier (2015) investigated the effect of board composition on financial performance using a sample of 151 South African companies. They discovered that financial performance correlates positively with board composition ratio. Therefore, the following hypothesis is formulated:

H07. Board of directors' composition does not moderate the association between related transactions and banks' market value.

2.4 Board of directors' characteristics and RPTs

According to Ross *et al.* (2008), the board of directors' role is to monitor and review management activities and ensure that management's goals are consistent with shareholder interests. Many studies that looked at board of director size discovered that a small board of directors is better than a large board of directors, arguing that more board members increase constraints to directors' communication and coordination and reduce board members' ability to supervise top management, resulting in more agency issues and a negative effect on company performance (Liang *et al.*, 2013; O'Connell and Cramer, 2010). The presence of independent directors on the board is thought to reduce the usage of RPTs (Bona-Sánchez *et al.*, 2017; Salehi *et al.*, 2018; Gavana *et al.*, 2022; Ismail *et al.*, 2022; Salehi *et al.*, 2022a, b). Perry (2000), in his results, found that the director's bonus compensation has a positive effect on the director's performance.

Usually, the level of board involvement in a business is determined by the number of board meetings (Liang *et al.*, 2013). Regular board meetings are necessary due to the dynamic nature of the banking industry. Bognanno (2001) believes that the pay of the CEO grows with the number of vice-presidents vying for the top position. Thus, based on the above discussion, the authors believe that there are very few studies that addressed the impact of promoters and directors' remuneration on RPTs, which motivated the researchers to formulate the following hypotheses:

Thus, the following hypotheses are designed:

H08. board of directors' size has an insignificant impact on RPTs in Indian banks.

H09. board of directors' composition has an insignificant effect on RPTs in Indian banks.

H010. Board of directors' diligence has an insignificant impact on RPTs in Indian banks.

H011. Promoters have an insignificant effect on RPTs in Indian banks.

H012. Directors' remuneration has an insignificant impact on RPTs in Indian banks.

Based on the discussion of the literature review, it is noticed that numerous studies examined the impact of RPTs and board characteristics on firms' value, e.g. (Tariq and Mousa, 2020; Huang and Liu, 2010; Fooladi and Farhadi, 2017; Islam, 2020; Kohlbeck and Mayhew, 2010) or the influence of governance variables (board size, board independence and board diligence, promoters and directors' remuneration) on the different aspects of banks like RPTs and financial performance in other countries, e.g. Liang *et al.* (2013), Hope and Lu (2020). It is also observed that the majority of those studies concentrated on non-financing sectors, while studies in the financing sector are pretty insufficient, especially in the banking sector. Therefore, researchers believe that there is a need for a systematic and detailed study regarding the impact of corporate governance variables on RPTs and banking market value in emerging economies such as India.

3. Methodology

3.1 Sample size and data sources

The study targeted all listed banks on the Indian Bombay stock exchange. The study found that there were 40 listed banks in ProwessIQ database [1]. To set a balance panel data, the study included only those banks whose data are available for ten years from 2010 to 2019. Two banks were eliminated from the sample due to the non-availability of data for the study period.

Therefore, the study's final sample consists of 38 banks with data for the study period. Following previous literature (e.g. Lin and Zhang, 2009; Berger *et al.*, 2010), the study has taken two control variables such as bank size (SIZE) and leverage (LEVE), into the analysis. See Table 1 which is available in supplementary material to article.

3.2 Model specifications

The study applies a panel data set of 38 banks for the period from 2010 to 2019 with 380-year observations. Kyereboah-Coleman (2007) argued that panel data has better control over individual multicollinearity and heterogeneity. Furthermore, the application of the Generalized Method of Moment (GMM) takes care of the issue of heterogeneity by picking the initial differences and therefore removing the individual impact, resulting in unbiased findings. Therefore, the study used GMM estimation and a fixed-effect model to estimate the results. Following are the regression models of the study.

$$\begin{aligned}(\mathrm{MV})_{\mathrm{it}} = {} & \alpha + \beta_1(\mathrm{AKPT})_{\mathrm{it}} + \beta_2(\mathbf{AST})_{\mathrm{it}} + \beta_3(\mathbf{BS})_{\mathrm{it}} + \beta_4(\mathbf{BC})_{\mathrm{it}} + \beta_5(\mathbf{BD})_{\mathrm{it}} \\ & + \beta_6(\mathbf{PRO})_{\mathrm{it}} + \beta_7(\mathbf{REM})_{\mathrm{it}} + \beta_8(\mathrm{AKPT}{*}\mathbf{BC})_{\mathrm{it}} + \beta_9(\mathrm{AST}{*}\mathbf{BC})_{\mathrm{it}} \\ & + \beta_{10}(\mathbf{LEVE})_{\mathrm{it}} + \beta_{11}(\mathbf{lOGTA})_{\mathrm{it}} + \varepsilon_{\mathrm{it}}\end{aligned} \tag{1}$$

$$\begin{aligned}(\mathrm{TQ})_{\mathrm{it}} = {} & \alpha + \beta_1(\mathrm{AKPT})_{\mathrm{it}} + \beta_2(\mathbf{AST})_{\mathrm{it}} + \beta_3(\mathbf{BS})_{\mathrm{it}} + \beta_4(\mathbf{BC})_{\mathrm{it}} + \beta_5(\mathbf{BD})_{\mathrm{it}} \\ & + \beta_6(\mathbf{PRO})_{\mathrm{it}} + \beta_7(\mathbf{REM})_{\mathrm{it}} + \beta_8(\mathrm{AKPT}{*}\mathbf{BC})_{\mathrm{it}} + \beta_9(\mathrm{AST}{*}\mathbf{BC})_{\mathrm{it}} \\ & + \beta_{10}(\mathbf{LEVE})_{\mathrm{it}} + \beta_{11}(\mathbf{lOGTA})_{\mathrm{it}} + \varepsilon_{\mathrm{it}}\end{aligned} \tag{1a}$$

$$\begin{aligned}(\mathrm{MBR})_{\mathrm{it}} = {} & \alpha + \beta_1(\mathrm{AKPT})_{\mathrm{it}} + \beta_2(\mathbf{AST})_{\mathrm{it}} + \beta_3(\mathbf{BS})_{\mathrm{it}} + \beta_4(\mathbf{BC})_{\mathrm{it}} + \beta_5(\mathbf{BD})_{\mathrm{it}} \\ & + \beta_6(\mathbf{PRO})_{\mathrm{it}} + \beta_7(\mathbf{REM})_{\mathrm{it}} + \beta_8(\mathrm{AKPT}{*}\mathbf{BC})_{\mathrm{it}} + \beta_9(\mathrm{AST}{*}\mathbf{BC})_{\mathrm{it}} \\ & + \beta_{10}(\mathbf{LEVE})_{\mathrm{it}} + \beta_{11}(\mathbf{lOGTA})_{\mathrm{it}} + \varepsilon_{\mathrm{it}}\end{aligned} \tag{1b}$$

$$\begin{aligned}(\mathrm{RPT})_{\mathrm{it}} = {} & + \beta_1(\mathbf{BS})_{\mathrm{it}} + \beta_2(\mathbf{BC})_{\mathrm{it}} + \beta_3(\mathbf{BD})_{\mathrm{it}} + \beta_4(\mathbf{PRO})_{\mathrm{it}} + \beta_5(\mathbf{REM})_{\mathrm{it}} \\ & + \beta_6(\mathbf{LEVE})_{\mathrm{it}} + \beta_7(\mathbf{lOGTA})_{\mathrm{it}} + \varepsilon_{\mathrm{it}}\end{aligned} \tag{2}$$

$$\begin{aligned}(\mathrm{AKPT})_{\mathrm{it}} = {} & + \beta_1(\mathbf{BS})_{\mathrm{it}} + \beta_2(\mathbf{BC})_{\mathrm{it}} + \beta_3(\mathbf{BD})_{\mathrm{it}} + \beta_4(\mathbf{PRO})_{\mathrm{it}} + \beta_5(\mathbf{REM})_{\mathrm{it}} \\ & + \beta_6(\mathbf{LEVE})_{\mathrm{it}} + \beta_7(\mathbf{lOGTA})_{\mathrm{it}} + \varepsilon_{\mathrm{it}}\end{aligned} \tag{2a}$$

$$\begin{aligned}(\mathrm{AST})_{\mathrm{it}} = {} & + \beta_1(\mathbf{BS})_{\mathrm{it}} + \beta_2(\mathbf{BC})_{\mathrm{it}} + \beta_3(\mathbf{BD})_{\mathrm{it}} + \beta_4(\mathbf{PRO})_{\mathrm{it}} + \beta_5(\mathbf{REM})_{\mathrm{it}} \\ & + \beta_6(\mathbf{LEVE})_{\mathrm{it}} + \beta_7(\mathbf{lOGTA})_{\mathrm{it}} + \varepsilon_{\mathrm{it}}\end{aligned} \tag{2b}$$

$$\begin{aligned}(\mathrm{TRPT})_{\mathrm{it}} = {} & + \beta_1(\mathbf{BS})_{\mathrm{it}} + \beta_2(\mathbf{BC})_{\mathrm{it}} + \beta_3(\mathbf{BD})_{\mathrm{it}} + \beta_4(\mathbf{PRO})_{\mathrm{it}} + \beta_5(\mathbf{REM})_{\mathrm{it}} \\ & + \beta_6(\mathbf{LEVE})_{\mathrm{it}} + \beta_7(\mathbf{lOGTA})_{\mathrm{it}} + \varepsilon_{\mathrm{it}}\end{aligned} \tag{2c}$$

4. Analysis and discussion

4.1 Descriptive statistics

Table 2 (available in supplementary material to article) demonstrates the central tendencies of dependent and independent variables. The table reveals that the mean and median values of TQ are 0.8 and 0.69, respectively, while the mean and median values of BMR are 0.19 and 0.06.

Regarding RPTs, the mean values of TRPT, AKPT and AST are 823149.4, 374270.2 and 32396.89, respectively. Moreover, Table 2 shows the descriptive statistics of corporate governance, it is shown that the average board size among Indian listed banks is 13.5, and the largest size is 32, while the smaller board size in Indian listed banks is five members. The mean values of BI and BD are 0.36 and 0.7, which means that 0.36 of the board of directors are independent directors and the board members attend 0.70% of the board meetings. It is also revealed that 0.01 of board of directors are promoters. Furthermore, the median values of REM and LEVE are 7678673 and 1.18.

4.2 Correlation matrix

Table 3 (available in supplementary material to article) demonstrates that while AKPT negatively and insignificantly associates with TQ and MBR, it positively and insignificantly correlates with TQ and MBR. On the contrary, AST has a negative relationship with TQ and MBR of the selected banks. Board of directors' size negatively and significantly associates with the market value of the chosen banks measured by TQ and MBR. In contrast, BI and BD positively and significantly correlate with TQ and MBR of the selected banks. Furthermore, LOGTA negatively and significantly correlates with TQ and MBR of the chosen banks. Regarding the association between RPTs measured by all key personal transactions (AKPT), all subsidiary transactions (AST) and total RPTs (TRPT) and corporate governance, Table 3 reveals that BS, BI, BD, PRO, REM have an insignificant negative association with related party transaction measured by AKPT and TRPT. On the contrary, BS, BI and REM have a positive and significant relationship with RPTs measured by AST.

4.3 Regression models

Table 4 (available in supplementary material to article) shows that all assumptions of GMM model were met in both models. The models are significant at predicting the outcomes (pro<0.005), Sargan test is less than 0.005, and the values of AR (2) are more than 0.05. Table 4 reveals that AKPT insignificantly impacts TQ and MBR of Indian listed firms (p.v > 0.05); these results are consistent with Fooladi and Farhadi (2017), who found that there is an insignificant association between RPTs and market value. On the contrary, AST negatively and significantly affects TQ and MBR of the selected banks with a low coefficient (p.v < 0.05); this means that when AST increases by one percent the TQ and MBR decrease by 0.001 unit, this result consists with Kohlbeck and Mayhew (2010) who found earnings of shares which are associated with sales to related parties are lower than that are not associated with sales to unrelated parties. Similarly, Dahya *et al.* (2008) argue that firms using RPTs have lower market value. On the contrary, this result contradict with Lo and Wong (2016), Hope and Lu (2020), Wang *et al.* (2019), who argue that related party transactions increase a firm's market worth. Further, the study result goes in line with the conflict of interest hypothesis which states that related parties utilize their power to expropriate corporate resources for their advantage, increasing agency costs and diminishing firm value.

Table 4 shows that board size insignificantly impacts the market value of Indian listed banks measured by TQ and MBR. One probable explanation is that board size might not be perceived by market participants or stockholders to be a successful strategy for improving the market value of banks. In the same line, Table 4 reveals that board of directors' size (BS) negatively and significantly affects MBR of the selected banks; this result goes in line with Liang *et al.* (2013) and O'Connell and Cramer (2010) who found a significant impact of board size on banks' market value.

On the other hand, BI has an insignificant impact on TQ but has a positive and significant impact on MBR of the sample banks; this result is consistent with Cornett *et al.* (2009) who argue that board independence associates positively with earning quality. In the same line, board of directors' diligence has a positive and significant impact on TQ and MBR of Indian listed banks with 0.201 and 0.048 coefficients, respectively ($p.v < 0.05$). Liang *et al.* (2013) believe that when the frequency of board meetings increases, the performance of banks improves. Similarly, Table 4 also reveals that promoters positively and significantly affect the market value of Indian banks measured by TQ and MBR with 0.534 and 0.379 coefficients, respectively. In the same vein, REM has a positive and significant effect on the market value of Indian banks measured by TQ and MBR with 0.001 coefficient. This result is consistent with Lee *et al.* (2008) who found remuneration has a positive impact on market value.

Regarding the interaction of board of directors' composition, results in Table 4 demonstrate that board of directors' composition positively and significantly moderates the relationship between all key personal transactions and banks' market value. Similarly, it is revealed that board of directors' composition positively and significantly moderates the impact of all subsidiary transactions and banks' market value. This result goes in line with Jeon (2019) and Chien and Hsu (2010) who argue that the board of directors plays a major role in supervising transactions between related parties and, as a consequence, inefficiently minimizing these transactions. These results demonstrate that independent directors pay close attention when formulating RPTs policies and decisions. Outside directors, especially independent directors, are successful because they have a variety of knowledge and because their main duty is to safeguard the interests of minority shareholders. Thus, RPTs will not expropriate the interests of minority shareholders in institutions where there are independent directors, and they are expected to boost shareholder value by enhancing transaction efficiency.

Regarding controlling variables that were used in the model, Table 4 shows that leverage has a negative and insignificant effect on TQ and a positive and significant impact on MBR of India-listed banks. In contrast, LOGTA positively and significantly affects TQ and negatively and significantly affects the MBR of Indian listed banks.

Table 5 (available in supplementary material to article) expiates the results of three regression equations that examine the effect of board characteristics represented by board size, composition, diligence, promoters and remuneration on RPTs measured by all key personal transactions, all subsidiary transactions and total RPTs. Results show that BS has a negative and significant impact on TRPT and a positive and significant impact on AST with −485892.90 and 1298.955 coefficients respectively. Similarly, BI has a positive and significant impact on TRPT and AST with 1,555,766 and 10697.46, respectively. These results conflict with the results of Gordon *et al.* (2004) who argue that the size of RPTs is negatively connected with the number of independent directors on the board. Similarly, REM positively and significantly impacts RPTs measured by RTPT and AST with 0.004 and 0.001448 coefficients, respectively. On the contrary, BD and LEVE have a negative and significant impact on RPTs measured by TRPT and AST. While PRO positively and significantly affects TRPT, it negatively and significantly impacts AST. Finally, LOGTA positively and significantly affects RPTs measured by TRPT and AST.

4.4 Robustness analysis- two-stage least square (2SLS) regression

Table 6 (available in supplementary material to article) shows 2SLS regression analysis for all models. 2SLS is used for testing the results' robustness. Overall, it can be seen from Table 6 that the results are similar in terms of their significance with the exceptions of some variations in the levels of significance. Further, the coefficients and the standard errors are not largely inflated or deflated as compared to prior results of GMM. This indicates robust findings with the earlier GMM models.

5. Conclusion

Related party transactions can be efficient or they might create a conflict of interest between the majority and minority owners. RPTs achieve transaction efficiency by lowering the cost of transactions and promoting easy exchange of goods and services between parties. Conflicts of interest might develop if the majority owners utilize RPTs as a means of seizing the wealth of minority shareholders. In the present study, the market value of Indian listed banks was evaluated in relation to the influence of RPTs and board of directors' characteristics. Furthermore, the moderating impact of board composition on the association between RPTs and banks' market value was examined. Additionally, the impact of board of directors' features on RPTs was assessed. The sample size consists of 38 banks listed on Bombay stock exchange. Results revealed that AST, BD, PRO, REM and LOGTA have a significant impact on TQ of Indian listed banks. Further, AST, BS, BI, BD, PRO, REM, LEVE and LOGTA have a significant impact on MBR of Indian listed banks. Moreover, the findings show that the composition of the board of directors significantly and positively influences the association between the market value of banks and all key personal transactions. The composition of the board of directors is also shown to considerably and positively mitigate the effect of all subsidiary transactions on bank market value. Furthermore, BS has a negative and significant impact on TRPT and a positive and significant impact on AST, BI has a positive and significant impact on TRPT and AST. Similarly, REM positively and significantly impacts RPTs measured by RTPT and AST. On the contrary, BD and LEVE have a negative and significant impact on RPTs measured by TRPT and AST. While PRO positively and significantly affects TRPT, it negatively and significantly impacts AST.

Limitations are part of each research that are beyond the control of researchers. Like other research, this article has some limitations that open the path for future research to be conducted. The first limitation of this paper is that it is Limited only to listed banks whose data is available in the ProwessIQ database. Future research could include all listed and unlisted banks and gather data from other databases in which financial and governance data could be available, e.g. plumbing database. The second limitation of this study is the time period which covers 10 years from 2010 to 2019 due to the inability to access the database for getting up-to-date data that covers the years 2020 and 2021. Researchers can get up-to-date data and increase the time period of the study. Further, as these financial years were affected by the Covid-19 pandemic, researchers are suggested to carefully interpret the results or introduce dummy variables to control for the effect of the Covid-19 pandemic.

Despite the aforementioned drawbacks, the study enriched the body of research by examining the moderating impact of the composition of the board of directors on the relationship between RPTs and bank value. Additionally, this study concentrated on non-financial corporates, a topic that hasn't received enough attention in the Indian context. Additionally, this study adds to the body of knowledge on RPTs by illustrating how different forms of RPTs affect the value of Indian banks, giving owners, directors and management a better understanding of the strategies for enhancing corporate governance.

5.1 Practical and theoretical implications

This research offers crucial practical managerial implications to various stakeholders such as policymakers, investors and creditors in India. The outcomes of this research will allow top managers, directors and shareholders to comprehend strategies that would enhance corporate control systems regarding various RPTs. The study found that key personal transactions do not affect the value of banks, while subsidiary transactions negatively and significantly affect the value of the selected banks. These findings suggest policymakers, creditors and investors not to view all RPTs as harmful transactions to banks' value. There are only some transactions that can be harmful transactions to banks' value such as subsidiary transactions. Therefore, RPTs should be categorized into transactions that are harmful and transactions that are beneficial to banks. Further, the results of the study revealed that the board of directors' composition positively moderates the association between related party transactions and banks' value; thus, Indian banks are recommended to increase the number of independent directors as they play a significant role in the monitoring of RPTs by developing regulatory measures that can both enable and manage RPTs that improve operational efficiency while also being able to control detrimental RPTs. For practitioners and academic researchers, the findings reported in this research have many valuable implications. For forming internal governance mechanisms, bank owners or shareholders may refer to the findings of this research to ensure a good governance mechanism. Shareholders may use the published results to determine the optimal size of the board in the bank.

Note

1. The database is maintained by the "Centre for Monitoring Indian Economy". It is the biggest and most wide-ranging database of India that provides time-series data of the active Indian companies from 1989 onwards and updated continuously by its administrator.

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Supplementary material

The supplementary material for this article can be found online.

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