DO CASH HOLDINGS MATTER FOR TRANSACTIONS BETWEEN AFFILIATED FIRMS? EVIDENCE FROM BRICS COUNTRIES

Aghila Sasidharan *, Muthuveerappan Thenmozhi **

** *Corresponding author*, Indian Institute of Forest Management, Bhopal, India
Contact details: Indian Institute of Forest Management, P. O. Box 357, Nehru Nagar, Bhopal, 462003 Madhya Pradesh, India
** Department of Management Studies, Indian Institute of Technology Madras, Chennai, India

OPEN ACCESS

How to cite this paper: Sasidharan, A., & Thenmozhi, M. (2024). Do cash holdings matter for transactions between affiliated firms? Evidence from BRICS countries [Special issue]. *Corporate Ownership & Control, 21*(3), 31–44. https://doi.org/10.22495/cocv21i3siart3

Copyright © 2024 The Authors

This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0). https://creativecommons.org/licenses/by/4.0/

ISSN Online: 1810-3057
ISSN Print: 1727-9232

Received: 05.06.2024
Accepted: 06.09.2024

JEL Classification: G30, G32, G34, M41
DOI: 10.22495/cocv21i3siart3

Abstract

This study aims to look into the effect of cash holdings on related party transactions (RPTs). We also investigate whether the excess cash used for various types of RPTs has any effect on firm value. Our sample includes firms from Brazil, Russia, India, China, and South Africa (BRICS), and we find that RPTs have a negative impact on firm value in Brazil, Russia, India, and South Africa due to agency conflict. Tunneling has a negative impact on firm value in India and China due to the promoter's opportunistic behavior. We also find that when excess cash is used for RPTs it enhances the firm value in BRICS countries. Using the difference in difference (DID) method, we discover that companies increase their RPT disclosure in the post-mandate compared to the pre-mandate period, augmenting their value. The level of monitoring must vary depending on the nature of RPTs. The negative impact of RPTs is mitigated when excess cash is used for such transactions and RPT disclosure is mandated. We contribute to the RPT literature by demonstrating that tunneling RPTs lower firm value in India and China. Regulators in these countries should implement stringent regulations to reduce value-destroying RPTs. Our findings support agency theory by suggesting that disclosing RPTs in annual reports reduces conflict between controlling and minority shareholders.

Keywords: Corporate Governance, Related Party Transactions, Tunneling, Propping, Cash Holdings, Resource Dependence Theory

Authors' individual contribution: Conceptualization — A.S. and M.T.; Methodology — A.S.; Software — A.S.; Validation — M.T.; Formal Analysis — A.S.; Investigation — M.T.; Resources — M.T.; Data Curation — A.S.; Writing — A.S.; Visualization — M.T.; Supervision — M.T.; Project Administration — M.T.; Funding Acquisition — M.T.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

Related party transactions (RPTs) are common in all economic activities, and both emerging and developed countries have implemented several regulatory measures to support RPTs. Concentrated ownership is common in India and China, where controlling shareholders wield considerable power, and the effectiveness of independent directors in approving RPTs is known. According to the Organisation for Economic Co-operation and Development (OECD), steps that can be made to safeguard minority shareholders against RPTs can be taken based on the income and balance sheet components of RPTs in five countries, including Belgium, India, Israel, Italy, and France. Controlling

shareholders are using self-dealing transactions to exercise their control in France and India. Hence, RPTs are considered to reduce the value of the firm (Cheung et al., 2006; Srinivasan, 2013). On the contrary, some studies show that RPTs increase firm value (Gopalan et al., 2007).

Holding excess cash allows firms to address the issue of external finance in situations where it may be prohibitively expensive or perhaps impossible to obtain external financing (Hu et al., 2009; Salehi et al., 2022). When firms find it difficult to raise external finance, group firms support the member firms to overcome their financial distress through RPTs and thereby develop an internal capital market (Gopalan et al., 2007). Cash holdings allow firms to lessen their reliance on external financiers who demand high interest rates while providing additional monitoring incentives for management to avoid underinvestment (Dittmar & Mahrt-Smith, 2007; Pinkowitz et al., 2006). Studies examining reasons behind holding excess cash are limited, and their linkage to firm performance is unknown. Further, little evidence exists on the impact of cash holdings and governance measures on firm value. Hence, this study examines the linkage between tunneling and propping types of RPTs and excess liquidity in a firm. We further examine if excess cash used for tunneling and propping improves the firm value. The inconclusive evidence on the influence of RPTs on company value is most likely due to the various types of RPTs. Due to agency conflict, tunneling RPTs may have a negative impact on firm value, whereas propping RPTs may have a positive impact on firm value since propping transactions allow firms to lower transaction costs (Cheung et al., 2006; Kohlbeck & Mayhew, 2010). Furthermore, whether a firm uses excess funds to engage in RPTs influences the impact of RPTs on firm value. However, there is little evidence of the impact of excess cash on RPTs.

This study contributes to the existing literature on excess cash and RPTs in many ways: First, this study helps investors, regulators and shareholders to understand how excess cash used to manage the firm's assets efficiently can enhance firm value. Second, this study further classifies RPTs according to their nature and this enables the regulator to observe which type of RPTs enhance the firm value. Third, prior studies focus on external factors such as institutional ownership of corporate governance (Gilson & Gordon, 2003). Since Brazil, Russia, India, China, and South African (BRICS) institutions are so weak, firm-level corporate governance is expected to play a more active role in limiting expropriation activities. Hence, this study controls for corporate governance characteristics while examining the effect of RPTs on firm value. Fourth, in terms of connected transactions, RPTs in developing markets, particularly BRICS, differ from those in developed economies, and we give evidence in the context of BRICS countries, which offer a unique institutional framework that encourages more RPTs. Furthermore, our analysis uses the difference in difference (DID) approach to examine whether mandatory RPT disclosure has effectively increased firm value in the post-mandate period.

Using a panel regression analysis on a sample of BRICS firms, we demonstrate that RPTs negatively impact firm value in South Africa, India, Russia, and Brazil. Furthermore, we confirm the entrenchment effect by finding that firms in India and China encourage more tunneling-type RPTs. In Brazil, Russia, India, and South Africa, firms are encouraging propping types of RPTs which is consistent with transaction cost theory. Excess cash has a favorable effect on RPTs in the BRICS, and when it is used for RPTs, the value of the firm increases in the BRICS countries.

This paper is structured as follows. Section 2 describes the literature review and formulates the hypotheses. Section 3 reports the data and methodology. Section 4 provides the empirical results and discussion. Section 5 concludes the paper.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Institutional background

High ownership concentration, high expropriation and weak legal enforcement are typical in emerging economies (Min et al., 2022; Sarkar & Sarkar, 2000). Therefore, the BRICS countries provide an appropriate research setting for examining the impact of RPTs on firm value. Firms prefer RPTs for tax advantages, achieving economies of scale, allocating capital to associated firms, and overcoming financial constraints (Ben Cheikh & Loukil, 2023; Usman et al., 2022). Various regulations have been implemented in emerging economies like India and China to reduce the scandals arising out of RPTs. The Companies Act, 2013, in India mandates all the listed firms to report their RPTs in their financial statements. Further, the Securities and Exchange Board of India's Listing Obligations and Disclosure Requirements (SEBI LODR) made it mandatory for material RPTs with a threshold of Rs. 1000 crore or 10% of the listed entity's consolidated annual turnover to receive prior shareholder approval. Additionally, the enhanced disclosure of information related to RPTs must be presented to the audit committee beginning on April 1, 2023. China is becoming like a capitalist economy, where private parties are engaging in transactions for their own needs and hence, the China Securities Regulatory Commission insisted that board approval is required for disclosing RPTs. The new regulation stipulates that it is mandatory for all the firms to report RPTs and audit committee approval is required for the disclosure of RPTs. Though there is no mandate, the Russian Ministry of Finance brought a threshold value norm for domestic RPTs, i.e., RUB 3 billion ($103 million) to restrict RPTs. The Brazilian tax authority also introduced two accounting procedures for the valuation of RPTs in 2013, i.e., a new transfer pricing method related to RPTs, and the debt granted by foreign related parties to firms should not exceed twice the amount of its participation. With respect to BRICS countries, in South Africa, there is no stipulated regulation relating to RPTs. While the implementation of mandatory disclosure of RPTs in the BRICS countries may aid in mitigating accounting controversies, such practices are not mandated in Brazil, Russia, and South Africa. It is interesting to ascertain whether such disclosure influences the firm value during the post-mandate period. Hence, we hypothesize that:

H1: In the post-mandate period, mandatory RPT disclosure increases the value of the firm.

2.2. The effect of different RPTs on firm value

Previous research has looked at the impact of RPT on firm value (Kohlbeck & Mayhew, 2017; Ryngaert & Thomas, 2012), ownership, and the corporate governance structure (Bhandari et al., 2022; Gordon & Henry, 2005). However, these studies have looked at RPT as a whole and they didn't look at the classification of RPTs. There are two alternative views of RPT (Johnson et al., 2000). The first view considers RPT as a mechanism to transfer resources among the firms which can pave the way for expropriation. The alternative view is that RPTs are a substitute for inefficient outside markets; they increase operational efficiency and firm value. RPTs are seen as a more effective method for providing capital and managerial resources among connected firms when external markets are undeveloped. The first perspective is referred to as "tunneling", and the second is called "propping" (Hu et al., 2009; McGee, 2009; Yeh et al., 2012). The term "tunneling" is first coined by Johnson et al. (2000). Tunneling occurs when a firm transfers or sells its assets or services to benefit its controlling shareholders (Cho & Lim, 2018; Gilson & Gordon, 2003). Tunneling can be broadly categorized into two types: financial tunneling and operational tunneling. Financial tunneling encompasses insider trading and stock dilution, while operational tunneling pertains to self-dealing activities like asset sales, executive compensation, and expropriation of investment opportunities (Bernotas, 2005; Yeh et al., 2012). Depending on the legal constraints, we can determine which type of tunneling is prevalent in each country. However, there is no clear definition for propping in the literature.

Cheung et al. (2006) categorized RPTs into three distinct groups: those that are expected to facilitate tunneling (e.g., cash payments, asset acquisition, asset sales, equity sales, and trading relationships); those that are expected to benefit the publicly traded companies (cash inflows, outflows, and subsidiary connections); and those that are motivated by strategic objectives (acquisitions and joint ventures). The BRICS nations' inadequate investor protection and corporate governance safeguards provide little protection for minority shareholders. Family-owned businesses typically appoint trusted representatives or family members to management positions, which raises the probability that RPTs will lead to the expropriation of minority shareholders (Claessens & Fan, 2002). Investors are keen to invest in group-affiliated enterprises because they expect group firms to provide support (Jiang & Kim, 2015). Tunneling studies in China (Chen et al., 2014) and Hong Kong (Lo & Wong, 2011) investigated whether transfer pricing leads to the expropriation of minority shareholders. Few studies have been conducted to investigate the impact of propping on financial performance and risk sharing (Cheung et al., 2006; Gopalan et al., 2007; Khanna & Palepu, 1999).

Issues such as enforcement of property rights and contracts, which are crucial to the firm and should have a neutral or positive impact on its valuation and performance, may be mitigated through business dealings with affiliated firms. RPTs may be unfavorable for the listed firms, but favorable to the controlling owners (Bhandari et al., 2022; Cai et al., 2016). From the perspective of a firm, we can determine whether tunneling or propping-type RPTs are favorable or unfavorable to the firm. Based on this discussion, we hypothesise that:

H2: Tunneling reduces firm value, whereas propping increases firm value.

2.3. The effect of excess cash on different types of RPTs

Prior studies examine the determinates and rationale for holding cash in developed economies (Bates et al., 2018; Cai et al., 2016; Dittmar & Mahrt-Smith, 2007; Liu & Lu, 2007). Excess cash mitigates the risk and reduces agency problems. Firms keep excess cash to reduce transaction costs as well as managers can use this cash to meet their needs. For precautionary purposes, firms retain cash on hand to support their affiliates and to tackle unforeseen circumstances (Pinkowitz et al., 2006). Holding more cash enables the firm to offset its operational risk, and reduce the probability of bankruptcy (Wasiuzzaman, 2018). Financially constrained firms and firms that have high investment opportunities will hold more cash (Jiang & Wu, 2022; Tsai et al., 2022). Previous research has shown that financially constrained firms conserve cash as a result of operational uncertainty (Cai et al., 2016; Jensen, 1986; Opler et al., 1999). Another set of literature examines the motivation for holding currency through the lens of agency theory (Opler et al., 1999). When a capital market is underdeveloped and transaction costs are high, firms with substantial cash reserves finance their affiliated companies through RPTs. Thus, when excess cash is used for RPT, it may be advantageous to the firms and enhance firm value.

Even though propping receives considerable attention, still there is a lack of credible empirical results. Cash holdings are linked to the firm's financial constraints through propping. When a firm is facing financial distress propping plays a vital role by providing loans and another type of income to the financially constrained firms. When firms are facing any adverse impact, the decision taken by the controlling shareholders will prop up the firm (Ryngaert & Thomas, 2012; Srinivasan, 2013). Tunneling is consistent with the agency problem proposed by Jensen (1986). Excess cash is used to meet the interest of controlling shareholders through expropriation. Prior research has concentrated on corporate governance and tunneling in emerging countries (Johnson et al., 2000; La Porta et al., 1999). Prior research on corporate governance has shown that concentrated ownership allows promoters to expropriate resources from their enterprises to meet their own personal needs (Cho & Lim, 2018; Gilson & Gordon, 2003). When financially constrained firms disclose information, markets react positively about holding cash which implies that through propping, firms can improve their performance (Peng et al., 2011). Hence, we hypothesise that:

H3: Excess cash moderates the effect of different types of RPTs on firm value.

3. RESEARCH METHODOLOGY

The sample includes all BRICS countries that are emerging economies. RPTs are extensively used in China, India, and South Africa, but Russia and Brazil

report fewer RPTs. We have used data taken from the ProwessIQ system for India and Compustat and Bloomberg for other countries. The sample includes all firms that were part of the São Paulo Stock Exchange (*Bolsa de Valores de São Paulo* — BOVESPA) for Brazil, Moscow Interbank Currency Exchange (MICEX) for Russia, National Stock Exchange of India (NSE) for India, Shanghai Stock Exchange (SSE) for China, and Regional Securities Exchange SA (*Bourse Régionale des Valeurs Mobilières SA* — BRVM) for Africa. The data is collected for the period 2005 to 2017. Since banks are exempt from disclosing RPTs, this study excludes all banks and financial services institutions. After excluding the firms that have not disclosed RPT, our final sample consists of 208 firms and 3545 observations for Brazil, 197 firms and 2583 observations for Russia, 1705 firms and 6286 observations for India, 315 firms and 4598 observations for China, and 250 firms and 2255 observations for Africa. To minimize the impact of outliers, we winsorize the top and bottom of the variables by 1%.

3.1. Measurement of variables

Related party transactions are measured in terms of the value of transactions between the company, its affiliates and subsidiaries scaled to total assets similar to Chen et al. (2014). Prior literature measures tunneling and propping types of RPTs indirectly (Claessens & Fan, 2002; La Porta et al., 1999). Similar to Cheung et al. (2006), propping is measured by the total amount of transactions such as loans and guarantees as a percentage of total assets and tunneling by the total amount of transactions that are classified as tunneling such as assets acquisitions, cash payments to related parties and equity sales to total assets.

Similar to Bae et al. (2021) and Martínez-Sola et al. (2013), Tobin's Q (*TQ*) was used as a measure of firm value. Tobin's Q is calculated by dividing the market value of shares by the book value of debt and total assets. Excess cash (*ECH*) is measured by using the residual which is computed using Opler et al. (1999) cash holding regression.

Recent studies have looked into the effect of corporate governance on RPTs (Downs et al., 2016; Lo & Wong, 2011). Due to the widespread presence of promoters in BRICS nations, it is being regulated to examine the impact of excess cash on RPTs. Promoter (*PROMO*) ownership is determined by the percentage of shares held by the promoters. Similar to Kuan et al. (2010), we consider institutional investors as another measure of corporate governance. Institutional investors include banks, mutual funds and foreign institutional investors. Institutional investors (*INSTI*) are expressed as a percentage of the total number of shares held by institutional investors (Gompers & Metrick, 2001; Martínez-Sola et al., 2013).

This study used firm size, profitability, leverage, and dividends as control variables. The firm size (*SIZE*) is calculated using the natural logarithm of total assets, as Opler et al. (1999) and Cheung et al. (2006) used. Leverage (*LEVE*) is the ratio of borrowings to total assets. The use of debt may prevent tunneling by controlling shareholders due to external capital market monitoring (Friedman et al., 2003). Dividend (*DIVI*) is computed as the total dividend paid by total assets.

Table 1. Description of variables

Variables	*Abbreviation*	*Definition*
Cash holdings	*CH*	Cash and marketable securities to total assets
Cash flow	*CF*	Profit before interest and tax to total assets
Variability of cash flow	*VCOF*	Standard deviation of cash flow
Networking capital	*NWC*	Ratio of current assets minus current liabilities to total assets
Acquisitions	*ACQ*	Cash spent on acquisitions to total assets
Research and development	*R&D*	Research and development to total assets
Related party transactions	*RPTN*	Total value of RPT to total assets
Excess cash	*ECH*	Residuals from cash holdings regression
Tobin's Q	*TQ*	Market value of equity plus book value of debt to total assets
Tunneling	*TUNNEL*	Ratio of asset acquisitions, equity sales and cash payment to related parties to total assets
Propping	*PROP*	Ratio of loans and guarantees to related parties to total assets
Size	*SIZE*	Natural log of total assets
Dividend	*DIVI*	Dividend paid to total Assets
Leverage	*LEVE*	Total borrowings to total assets
Institutional investor	*INSTI*	Percentage of equity held by institutional investors
Promoters	*PROMO*	Percentage of shares held by Indian and foreign promoters

3.2. Methodology

We examine the influence of RPTs on firm value from 2006 to 2017 using a panel regression model with fixed factors. We perform a Hausman test (0.0243), and the results reveal that the panel fixed-effect model is better suited to studying the influence of RPT on firm value. Eq. (1) summarizes the model, which includes the variables used to calculate excess cash. Eq. (2) calculates the effect of excess cash on RPT. We incorporated corporate governance variables in this equation to investigate their impact on RPTs. Eq. (3) accounts for the moderating effect of extra cash in calculating the effect of RPT on firm value. We account for industry and year effects in all models to avoid heterogeneity and time-invariant factors. Similarly, to Thenmozhi et al. (2019), we use residuals of cash holdings regression to calculate a firm's excess cash.

$$CH_{it} = \alpha_0 + \beta_1 MTB_{it} + \beta_2 NWC_{it} + \beta_3 CF_{it} + \beta_4 VCOF_{it} + \beta_5 SIZE_{it} + \beta_6 R\&D_{it} + \beta_7 ACQ_{it} + \beta_8 DIVI_{it} + U_i + V_t + \varepsilon_{it} \quad (1)$$

where,

- cash holdings (*CH*) represent the proportion of cash and marketable securities in relation to total assets;
- market-to-book value (*MTB*) signifies the relationship between the book value of securities and their market value;

• net working capital (*NWC*) is calculated by subtracting current liabilities from total assets;

• cash flow (*CF*) is calculated as the ratio of profit before interest and taxes to total assets;

• variability of cash flow (*VCOF*) represents the standard deviation of cash flow from the previous year;

• research and development (*R&D*) represents the proportion of research and development expense to total assets;

• acquisitions (*ACQ*) signifies the proportion of capital spent on acquisitions to total assets;

• dividend (*DIVI*) represents the proportion of dividends paid to total assets;

• the variables denoting the industry-fixed effects, time-fixed effects, and the error term, respectively, are U_i, V_t, and $\varepsilon_{i,t}$.

The impact of excess cash on RPT is examined using the following equation:

$$RPT_{it} = \beta_0 + \beta_1 ECH_{it} + \beta_2 PROM_{it} + \beta_3 INSTI_{it} + \beta_4 SIZE_{it} + \beta_5 LEVE_{it} + \beta_6 PFTY_{it} + U_i + V_t + \varepsilon_{it} \quad (2)$$

The moderation impact of excess cash on RPT and firm value is examined using the following equation:

$$TQ_{it} = \alpha + \beta_1 RPT_{it} + \beta_2 ECH_{it} + \beta_3 RPT_{it} * ECH_{it} + \beta_4 SIZE_{it} + \beta_5 LEVE_{it} + \beta_6 DIVI_{it} + \beta_7 PFTY_{it} + U_i + V_t + \varepsilon_{it} \quad (3)$$

where, RPT_{it} represents the aggregate value of all transactions involving firms and their affiliates in relation to total assets; ECH_{it} denotes the residual resulting from the cash holding regression; $SIZE_{it}$ is the natural logarithm of total assets; and $LEVE_{it}$ represents the proportion of total debt to assets. The residuals from Eq. (1) constitute excess cashit, which may account for future cash balance growth. $PROM_{it}$ represents the combined holdings of Indian and international promoters. The proportion of shares held by institutional investors is denoted by $INSTI_{it}$. To determine TQ_{it}, the sum of the book value of debt and the market value of equity is divided by the total value of assets. The moderating effect of excess currency on RPTs is denoted by $ECH_{it} * RPTN_{it}$.

Tunneling refers to the total number of transactions classed as tunneling to total assets, whereas propping refers to the total number of transactions classified as propping to total assets. The effect of additional cash on tunneling and propping is explored individually, followed by examining the moderating effect. *ECH * TUNNEL* and *ECH * PROP* is the moderation effect of excess cash on tunneling and the moderation effect of excess cash on propping. Since firms in India and China increasingly use RPTs, analyzing the impact of regulatory mandates in India and China is critical. To examine the influence of RPTs on firm value, we used the Companies Act, 2013, in India and the SEBI LODR 2015 in China as external policy events. To examine the impact of RPTs on firm value during the pre-and post-mandated periods, we used two approaches: 1) we used firms that complied with the Companies Act, 2013, and the SEC regulation of 2015 as control firms and those that made changes in financial activities to comply with the Companies Act, 2013, and the SEC regulation of 2015 as affected firms, and 2) we used 2014 for India and 2016 for China as the year of mandate implementation.

We use the DID approach and analyse using the following equation:

$$TQ_{it} = \phi + ¥ * Treatment + \delta * After + \beta * Treatment * After_{it} + \phi * Firm_characteristic + \alpha_j + \lambda_t + \varepsilon_{it} \quad (4)$$

The DID is accounted for by the interaction term *Treatment * After*. We further verified the study's results by using return on assets (ROA) as a metric of performance.

4. EMPIRICAL RESULTS AND DISCUSSION

In India, the value of RPTs increased from Rs. 156.86 billion in 2005 to Rs. 354.09 billion in 2017 (see Table 2). In Chinese firms, the value of RPTs climbed from Rs. 322.33 billion in 2005 to Rs. 585.80 billion in 2007 but fell in 2008. Ministry of Finance and State Administration of Taxation (SAT) released a circular in 2008 indicating that the standard related party debt to equity ratio for non-financial firms is 2:1 and for financial firms it is 5:1. Implementation of this rule made the companies report fewer RPTs. From 2013 to 2014, the firms reported high RPTs and again it declined from 2015 onwards after the new regulation by SAT to disclose RPTs. In India, firms are reporting high RPTs. Firms in India encourage RPTs to reduce transaction costs. In South Africa, Brazil, and Russia, it is the firm's discretion whether to disclose RPTs or not.

Table 2. Analysis of related party transactions in BRICS

Year	Brazil			Russia			India			China			South Africa		
	RPT	Tunnel	Propping	RPT	Tunnel	Propping	RPT	Tunnel	Propping	RPT	Tunnel	Propping	RPT	Tunnel	Propping
2005	63.96	63.09	1.61	53.64	9.15	30.26	156.86	11.99	156.55	348.05	322.33	18.58	2.38	0.44	0.87
2006	81.35	59.3	1.08	56.69	10.24	33.29	156.13	40.2	155.83	354.3	336.81	23.44	173.86	28.7	101.47
2007	77.27	57.18	0	62.26	11.62	34.19	160.04	106.45	159.75	597.96	585.8	8.78	173.4	31.27	134.5
2008	64.53	55.98	0	64.62	11.44	38.23	181.25	44.47	180.91	531.97	499.65	48.24	160.57	29.39	197.25
2009	86.57	55.28	0	63.46	13.36	38.09	215.23	55.02	214.93	458.2	449.5	38.09	156.57	29.34	181.25
2010	66.2	53.43	0	60.45	15.22	31.78	234.61	48.6	234.3	641.23	624.07	15.57	149.46	29.55	108.5
2011	74.39	52.43	0.38	56.83	14.49	30.47	232.2	65.1	231.82	343.19	336.02	6.42	137.66	26.7	72.68
2012	59.22	52.36	0.15	59.45	13.98	36.67	255.71	10.5	255.34	395.26	389.29	5.63	148.08	25.59	86.41
2013	94.47	55.29	0.14	64.21	11.7	39.96	243.21	7.55	329.14	230.35	225.16	4.49	137.5	21.59	75.79
2014	53.65	53.51	0.09	62.41	12.7	36.2	239.57	2.48	239.33	422.95	407.09	8.32	133.16	19.81	72.19
2015	59.54	54.03	0.07	60.47	12.43	37.27	253.34	92.28	253.11	202.31	187.97	8.81	131.98	21.88	69.17
2016	62.96	50.66	0.04	57.13	10.48	34.27	298.61	75.71	298.21	167.9	155.74	9.44	118.66	20.63	63.66
2017	48.481	43.54	0.0414	29.13	5.38	18.12	354.09	16.89	353.89	110.57	96.27	13.94	87.83	15.77	42.78

When RPTs are grouped based on tunneling and propping, China reports a high level of tunneling Rs. 322.33 in 2005 and Rs. 426.13 in 2017 which indicates that in order to avoid delisting, controlling shareholders are providing support for the firms. Due to the audit committee's approval requirement for RPT transactions exceeding ten lakhs and the mandatory disclosure of RPTs in financial statements, tunneling activities in India have decreased from Rs. 11.99 crore in 2013 to Rs. 9.09 crore. By April 1, 2019, all companies are required by SEBI regulations of 2015 to seek omnibus approval from their audit committee before disclosing RPTs in their financial statements. This helps to reduce accounting scandals and protects the interests of minority shareholders. However, after 2015, tunneling showed an increasing pattern, which indicates that there is a need for regulatory authorities to look into it, while Brazil, Russia, and South Africa report the less tunneling types of RPTs. With respect to propping, India enables firms to engage more propping types of RPTs probably for efficient capital allocation and to overcome financial constraints. In South Africa, firms engaged in high-level propping activities till 2008, but it was reduced.

4.1. Summary statistics

Table 3 shows the summary statistics of the variables used in this study. RPT is very high for China (9.21% of total assets) followed by India (8.74%), Russia (5.56%), South Africa (3.61%), and Brazil (2.68%). Tunneling is very high for China (9.27%) and India (8.3%). Propping is high for India (7.74% of total assets) and Russia (5.53% of total assets), whereas in the case of China (4.91% of total assets) and South Africa (4.61% of total assets) propping is low. The average excess cash is high in South Africa (9.1%) and Russia (8.2%) followed by China (6.4%), India (4.7%) and Brazil (4.5%).

The correlation matrix demonstrates that excess cash positively and significantly impacts the propping type of RPTs in all countries except China, where firms with excess cash prefer tunneling. The propping and excess cash of Indian firms has a positive relationship with RPTs in the BRICS. Even though the controlling shareholders take advantage of the resources, firms in India are providing finance to their members (Gopalan et al., 2007). In India and China, promoters are positively and significantly related to tunneling, whereas, in Brazil and Russia, institutional investors have a significant relationship with propping. Except for South Africa, excess cash positively correlates with firm value in other countries. The value of firms is negatively impacted by tunneling in India and China. Size and profitability are control variables that exhibit a relationship with propping in India and Russia, suggesting that propping is more prevalent among larger and more profitable firms. We find propping is positively correlated with firm value in Brazil, Russia, and India, while tunneling has an inverse relationship with firm performance in Brazil, Russia, and India. The present study extends the literature on corporate finance by focusing on fund transfer within the related firms (Gopalan et al., 2007). This correlation matrix shows that the firm value is increasing with excess cash reserves in all the BRICS countries except South Africa.

Table 3. Descriptive statistics and correlation matrix (Part 1)

Variable	*Obs.*	*Mean*	*Std. dev.*	*TUNNEL*	*PROP*	*RPTN*	*ECH*	*TQ*	*PROMO*	*INSTI*	*SIZE*	*LEV*	*DIV*	*PFTY*
Panel A: Descriptive statistics and correlation matrix of Brazil														
TUNNEL	4817	0.0388	0.2295	1										
PROP	4817	0.0538	0.1549	-0.0617*	1									
RPTN	4817	0.0268	0.0165	0.8004*	0.0290*	1								
ECH	4817	0.0911	0.0452	-0.3673*	0.0364*	0.3815*	1							
TQ	4817	0.0702	0.0575	-0.0214*	0.0323*	-0.0587*	0.0234*	1						
PROMO	4817	0.3245	4.1825	0.0323	-0.0374	0.0174	0.0707*	-0.0165	1					
INSTI	4817	0.3383	21.3701	-0.1244*	-0.0187	0.0949*	0.0725*	0.0510*	0.0135	1				
SIZE	4817	7.3013	3.8979	-0.1727*	-0.0922*	-0.1593*	0.0358*	0.0951*	0.0047	0.0773*	1			
LEVE	4817	0.2633	0.0488	0.0352*	0.0214*	-0.0298	-0.0537*	-0.0505*	0.0609*	-0.0388*	0.2681*	1		
DIVI	4817	0.0599	0.0671	0.0608*	0.0398*	0.0357	0.3476*	0.0137*	0.0196	0.0496*	0.0464*	-0.1258*	1	
PFTY	4817	0.1241	0.0841	0.0744*	0.0194	0.0347*	0.2060*	0.0338*	0.0633*	0.0673*	0.2825*	0.0257	0.4655*	1
Panel B: Descriptive statistics and correlation matrix of Russia														
TUNNEL	3083	0.0486	0.0463	1										
PROP	3083	0.0553	0.0508	-0.0189*	1									
RPTN	3083	0.0556	0.0339	0.3760*	0.8359*	1								
ECH	3083	0.0821	0.0461	-0.0596*	0.1919*	0.1461*	1							
TQ	3083	0.0301	0.0035	-0.0584*	0.0127*	-0.0136*	0.0245**	1						
PROMO	3083	0.1384	6.2040	-0.1280	0.0963*	0.0782	0.1179	-0.1078	1					
INSTI	3083	0.2553	13.4412	0.0949*	0.0446*	0.0995*	0.0639*	-0.0699*	0.1322	1				
SIZE	3083	9.6824	2.2121	0.0933*	0.2058*	-0.1681*	-0.4028*	0.0789*	0.0021	-0.1680*	1			
LEVE	3083	0.2340	0.1213	-0.0692*	-0.0942*	-0.1141*	-0.1203*	0.0207	-0.0907	-0.1007*	0.1318*	1		
DIVI	3083	0.0390	0.0532	-0.0288	0.0577*	0.0625*	0.1789*	0.0081*	0.2935*	0.0055	-0.0639*	-0.0641*	1	
PFTY	3083	0.0652	0.0411	-0.0382*	-0.0513*	-0.0407*	0.0651*	0.0593*	0.0414	-0.0017	0.0700*	0.0115	0.1928*	1
Panel C: Descriptive statistics and correlation matrix of India														
TUNNEL	17383	0.0834	0.3971	1										
PROP	17383	0.0744	0.4717	0.281*	1									
RPTN	17383	0.0874	0.5521	0.095*	0.074*	1								
ECH	17373	0.0962	0.0471	0.384*	0.0531*	0.285*	1							
TQ	17383	1.1600	1.0250	-0.052*	0.239*	-0.422*	0.053*	1						
PROMO	17383	0.5675	6.0341	0.0223*	0.029*	0.247*	0.146*	0.207*	1					
INSTI	17383	0.3814	25.2594	-0.096*	-0.045*	0.093*	-0.044*	-0.091*	-0.337	1				
SIZE	17383	12.394	4.0271	0.117*	0.023*	0.135*	0.146*	-0.059*	-0.016*	0.025*	1			
LEVE	17383	0.0581	0.1771	0.074*	0.165*	-0.051*	0.0240*	-0.189*	0.266*	-0.075*	0.721*	1		
DIVI	17383	0.0324	0.0491	-0.075*	0.108	0.117*	0.023*	0.135*	0.146*	-0.059*	-0.016*	0.025*	1	
PFTY	17383	0.0297	1.7045	0.281	0.059*	0.181*	0.059*	0.193*	0.3327*	-0.109*	0.654	-0.020*	0.741*	1

Table 3. Descriptive statistics and correlation matrix (Part 2)

Variable	*Obs.*	*Mean*	*Std. dev.*	*TUNNEL*	*PROP*	*RPTN*	*ECH*	*TQ*	*PROMO*	*INSTI*	*SIZE*	*LEV*	*DIV*	*PFTY*
Panel D: Descriptive statistics and correlation matrix of China														
TUNNEL	7049	0.0927	0.3345	1										
PROP	7049	0.0491	0.2470	0.3422*	1									
RPTN	7049	0.0926	0.3639	0.9784*	0.4179*	1								
ECH	7049	0.0407	0.0641	0.0155*	0.0547*	0.0181	1							
TQ	7049	0.1024	0.5449	0.2996*	-0.3302*	0.3083*	0.0873*	1						
PROMO	7049	0.6906	12.223	0.2273*	-0.1055*	0.0161*	0.0145	0.0051	1					
INSTI	7049	0.2698	14.058	-0.0176	-0.0436*	-0.0275*	-0.0098	-0.0143	-0.0049	1				
SIZE	7049	8.6428	1.4756	0.4814*	0.4437*	0.4901*	0.2113*	0.4121*	0.0142	-0.0221	1			
LEVE	7049	0.1664	0.1070	-0.2566*	-0.1619*	-0.2578*	-0.2935*	-0.1409*	-0.0041	0.0250*	0.3845*	1		
DIVI	7049	0.0428	1.4756	0.4814*	0.4437*	0.4901*	-0.2113*	-0.4121*	0.0142	-0.0221	1.0000*	0.3845*	1	
PFTY	7049	0.0321	0.5531	-0.2552*	-0.2189*	-0.2601*	-0.1443*	-0.1918*	-0.0223	-0.0342*	0.2836*	0.0525*	0.2836*	1
Panel E: Descriptive statistics and correlation matrix of South Africa														
TUNNEL	4178	0.0329	0.109	1										
PROP	4178	0.0461	0.212	-0.1444*	1									
RPTN	4178	0.0361	0.295	0.0129*	0.0561*	1								
ECH	4179	0.091	0.035	-0.8152*	0.0213*	0.0439*	1							
TQ	4178	0.112	0.13	-0.0817*	0.1691*	0.346*	-0.0758*	1						
PROMO	4178	0.975	5.321	-0.0419*	-0.0249*	-0.2911*	0.2171*	-0.040*	1					
INSTI	4178	0.271	20.62	-0.0319*	-0.0114	-0.0394*	-0.0301	-0.0289	-0.1378*	1				
SIZE	4178	0.246	9.212	0.0552*	-0.0909*	0.0561*	-0.1464*	-0.1580*	0.1124*	0.0524*	1			
LEVE	4178	0.173	0.175	-0.0836*	-0.1783*	0.0690*	-0.0214*	-0.0829*	0.1480*	0.003	0.1374*	1		
DIVI	4178	0.226	0.194	-0.003	-0.0448*	-0.013	-0.028*	-0.093*	-0.005	-0.013	0.0394*	0.028	1	
PFTY	4178	0.045	0.066	-0.0759*	0.1131*	-0.0400*	0.018*	0.0819*	-0.0529*	-0.1245*	-0.0597*	-0.1025*	0.011	1

*Note: This table presents the descriptive statistics and correlation matrix for the main variables used in this study across the entire sample period. For each variable, we report the sample average, standard deviation and number of observations. The sample consists of all firm-years from 2006 to 2017. Detailed variable definitions are provided in Table 1. * Denotes correlation coefficients are statistically significant at a 1% level.*

4.2. The effect of RPTs on firm value

The findings in Table 4 illustrate the impact of RPTs on firm value. Our analysis reveals that RPTs have a negative impact on firm value in Brazil, Russia, and India. This suggests that an increase in the use of RPTs leads to a decrease in firm value. This decline is probably because controlling shareholders either engage in transfer pricing or divert resources through RPTs, thereby increasing the likelihood of expropriation. The positive relationship between RPTs and firm value contradicts the findings of Liu and Tian (2012) and Chen et al. (2014). This inconsistency may be attributed to the new accounting policy imposed by Chinese publicly traded firms to disclose RPTs in their annual report with approval from the audit committee. Expropriation is less probable when there is more transparency regarding RPT information. The findings indicate that RPT is positively correlated with firm value in South Africa, suggesting the presence of an efficient corporate governance system that mitigates information asymmetry and agency costs. South African companies grant greater authority to external auditors to verify adherence to International Financial Reporting Standards (IFRS). Therefore, RPT is perceived to increase value in China and South Africa, whereas in Brazil, Russia, and India, it is perceived to decrease value.

When RPT is classified by transaction type, it is evident that different types of RPT have varying impacts on firm value. Consistent with transaction cost theory and agency theory findings, we observe a negative correlation between tunneling and firm value in Russia, South Africa, and Brazil. The evidence indicates that through the private placement of securities, controlling shareholders obtain the private benefit of control, and companies that engage in RPTs receive a discount on their market value. Propping reduces the risk of delisting from the stock exchange and positively affects firm value, suggesting that the firm's ability to refinance is enhanced. Probably, due to highly concentrated ownership in India and China, firms engage more in tunneling activities to support their interests. Our findings are consistent with the entrenchment effect implying that the pyramidal ownership structure in India and China allows the controlling owners to expropriate the resources. But in China, propping is negatively related to the firm value showing that intragroup loans pave the way for tunneling than propping.

Thus, the market perceives the impact of tunneling and propping differently in these countries. Tunneling reduces the firm value in Brazil, Russia, and South Africa but it enhances firm value in India and China while propping enhances firm value in all countries except China. In India, both tunneling and propping enhance the firm value, while in China, only tunneling increases firm value, but in Brazil, Russia, and South Africa propping enhances the firm value. However, the effect of tunneling and propping may vary with the amount of excess cash the firms keep.

Table 4. Impact of different RPTs on firm value: Evidence from BRICS

Variables	TQ				
	Brazil	***Russia***	***India***	***China***	***South Africa***
	Panel A	***Panel B***	***Panel C***	***Panel D***	***Panel E***
	(1)	***(2)***	***(1)***	***(2)***	***(1)***
SIZE	-0.0481***	-0.0024	0.0020	0.0407***	0.7033***
	(-2.09)	(-0.12)	(0.13)	(2.94)	(4.80)
LEVE	0.0194	-0.0013**	0.0143	0.0165**	-0.0923
	(0.46)	(-2.13)	(0.91)	(2.28)	(0.65)
DIVI	0.611**	0.0063	0.0179	0.0189***	0.0012***
	(1.98)	(0.51)	(1.10)	(2.57)	(3.44)
PFTY	-0.0421	0.0023	0.0327**	0.0324***	0.0223
	(-1.26)	(0.23)	(2.01)	(4.31)	(0.22)
ECH	0.0886***	0.0193*	0.0285*	0.0292***	-0.0650
	(4.71)	(2.26)	(1.68)	(3.77)	(-0.46)
RPT	-0.0394**	-0.0150***	-0.0296**	0.0210***	0.0205**
	(-2.40)	(-3.95)	(-2.1)	(2.68)	(2.49)
*ECH * RPT*	0.0290**	0.0041***	0.0645***	0.0011***	0.0152***
	(2.34)	(3.67)	(3.57)	(2.81)	(2.74)
TUNNEL	-0.0560***	-0.0054*	0.0292***	0.0014***	-0.0670***
	(-3.03)	(-1.65)	(3.77)	(3.60)	(-4.01)
*ECH * TUNNEL*	0.0453***	0.0011*	0.0225***	0.0014***	-0.0737***
	(5.23)	(1.88)	(2.87)	(3.45)	(-4.35)
PROP	0.0489 ***	0.0701***	0.0331	-0.0017***	0.0186
	(3.53)	(2.61)	(0.80)	(-3.86)	(1.15)
*ECH * PROP*	0.0077**	0.0821**	0.0291***	-0.0056***	0.0443***
	(1.98)	(2.52)	(2.63)	(-3.01)	(2.73)
Constant	0.0621	0.0620***	0.0712	0.0267***	0.0115***
	(5.91)	(3.81)	(1.28)	(8.75)	(3.56)
Observations	3074	3083	17383	7012	4178
R-squared	0.223	0.237	0.279	0.321	0.252
Year effect	YES	YES	YES	YES	YES
Industry effect	YES	YES	YES	YES	YES

*Note: This table reports the results of the impact of RPT on firm value. Panel A, B, C, D, and E report the results of Brazil, Russia, India, China, and South Africa. Detailed variable definitions are provided in Table 1. All regressions control for industry and year fixed effects. T-statistics are in brackets. ***, **, * denote significance at the 1%, 5%, and 10% significance level, respectively.*

4.3. Impact of excess cash on firm value

Firms that maintain excess cash can ensure growth in their overall value. The effect of excess cash on the firm's value is detailed in Table 4. Except for South Africa, where firms retain cash as a precautionary measure, excess liquidity in no other country substantially and positively impacts firm value. This implies that managers in South Africa are incentivized to make value-enhancing investment decisions by surplus earnings. Conversely, the presence of excess cash in South Africa negatively impacts the firm's value due to the agency conflict that emerges between the controlling and minority shareholders. One plausible hypothesis to account for the contrasting relationships between excess cash and firm value among these countries is the inefficiency of the external financial markets in Brazil, Russia, India, and China. Firms in these countries have more financing constraints, hence they may not always be able to finance projects with positive net present values. This makes cash more valuable for firms in these countries and this is also the reason why firms in these countries hold more excess cash. Furthermore, the concentrated ownership structure in India, China, and Russia enables the managers to hold more cash to meet various motives. However, excess cash being held for engaging in RPTs is yet to be explored.

4.4. The effect of excess cash on different RPTs

Liquidity or excess cash is being used by the firms for different purposes such as transactional motive, precautionary motive or speculation motive. In addition to these, excess cash can be used by the firms to transfer resources to their affiliates and thereby encourage RPTs. Table A.1 (see Appendix) demonstrates the effect of excess cash on different types of RPTs. The results show that excess cash has a positive impact on RPTs in BRICS countries which suggests that firms with excess cash encourage RPTs by facilitating intragroup loans, less dependence on the external market and reducing the transaction cost and problem of asymmetry.

In Brazil, Russia, India, and South Africa, excess cash has a favorable effect on propping which shows that firms are using excess cash with a motto of upliftment of the affiliated firms. The related party tries to provide finance for non-performing firms (Gopalan et al., 2007; Cai et al., 2016). This result supports our argument that surplus cash is used by a firm to benefit its member firms, which in turn increases the amount of credit extended to related parties. However, in China, excess cash has a negative effect on propping.

Excess cash has a positive impact on tunneling in Russia, India, and China due to their ownership structure and controlling shareholders pursuing their interests by expropriating the resources from the firms and our results are consistent with Peng and Jiang (2006). Tunneling turns out easy to implement in firms with more cash, and controlling shareholders have incentives to keep cash under their control. The state-owned enterprises in China will use the funds they tunnelled for social objectives, but the minority shareholders will always suffer. Excess cash has a negative impact on firm value in Brazil and South Africa which shows that a high amount of RPTs with executives, directors and other parties are not for the welfare of the minority shareholders.

With regard to control variables, institutional investors favor propping in Russia which indicates that when the firms provide finance to their member firms, it provides a signal to them that these firms encourage RPTs which are beneficial for them. Monitoring by institutional investors prevents the managers from deploying cash on value-destroying activities. Institutional investors provide stable capital to the firms which helps the firms to reduce their dependence on external financers. Institutional investors support the propping kind of RPTs. Promoters have a positive impact on tunneling, implying that promoters benefit at the expense of minority shareholders.

Due to the concentrated ownership structure of Russia, India, and China, controlling shareholders can siphon excess cash from their firms. In the case of other countries, firms use excess cash for propping by providing finance for the needy. Indian firms are using excess cash for both tunneling and propping. In this context, there is a need to examine if excess cash used for RPTs impacts firm value.

4.5. Moderation effect of excess cash on RPTs

Since excess cash is used more for RPTs, it is pertinent to know if it leads to an increase/decrease in firm value. The interaction effect of excess cash and RPTs in Brazil shows that when excess cash is used for RPTs, firm value is decreased by 1.04% (-0.0394; +0.0290) and its effect is much higher in Russia, India, China, and South Africa where the value increased by 2.6%, 3.49%, 4.35%, and 3.57%, respectively. This increase is probably because firms use excess cash for value-enhancing RPTs.

With regard to tunneling, when excess cash is used for tunneling, the firm value is decreased by 1.07% (-0.0560; +0.0453) for Brazil, 0.62% for Russia, and 13.74% for South Africa which shows that excess cash is used by the controlling shareholders which may lead to agency conflict. In India and China, the firm value increases by 5.17% and 6.28%, respectively, which indicates that when there is excess cash, controlling shareholders are likely to provide temporary support for the firms to buy assets from listed firms which may have a positive impact on firm value.

The investigation of the interaction effect between propping and excess cash indicates that in each of the BRICS countries, the use of excess cash for propping increases firm value by the following percentage points: 5.66% for Brazil, 5.2% for Russia, 6.22% for India, 2.4% for China, and 6.29% for South Africa. This finding suggests that member firms face a reduced probability of bankruptcy, and in times of financial distress, the private benefit of control is significant.

Firms with excess cash may engage in different types of RPTs to enhance firm value. When excess cash is used for propping it enhances firm value in all the BRICS countries, but when excess cash is used for tunneling it decreases firm value in Brazil, Russia, and South Africa. In India, when excess cash is used for tunneling and propping, it enhances firm value significantly.

4.6. Effect of regulation on RPT

The DID analysis of the impact of RPTs on the value of a company is presented in Table 5. *ROA* and *TQ* have been used as dependent variables. Due to the lack of mandatory disclosure regulations for RPTs in Russia, South Africa, and Brazil, these countries have been excluded from our analysis. Model 1 and Model 2 are 2016 regulations derived from the Companies Act, 2013, and SEC. Firms that modified their RPTs after the mandate period are classified as "affected firms" in Models 3 and 4, whereas firms that have previously disclosed their RPTs are categorized as "control firms". The findings from India and China indicate that implementing RPT disclosure in annual reports positively and significantly correlates with the firm's value. This suggests that the inclusion of RPTs in the reports of treated firms contributes to an overall increase in firm value. The findings indicate that firms that adhere to the mandatory regulations can increase firm value and decrease scandals caused by RPTs.

Table 5. Regulation effect of the impact of RPT on firm value

Variables	*India*				*China*			
	Based on regulation		*Affected firms post regulation*		*Based on regulation*		*Affected firms post regulation*	
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	TQ	*ROA*	*TQ*	*ROA*	*TQ*	*ROA*	*TQ*	*ROA*
SIZE	0.0939***	-0.0003	0.1168***	-0.0260***	-0.0084***	0.0085	-0.0124***	0.0600***
	(15.30)	(-0.17)	(19.53)	(-2.59)	(-5.04)	(1.02)	(-3.02)	(3.24)
LEVE	0.9865***	0.0132**	-0.0094	-0.0334***	0.0223*	-0.0529**	0.0112*	-0.0703***
	(49.96)	(2.28)	(-1.20)	(-21.29)	(1.66)	(-2.24)	(1.72)	(-3.02)
S_Grow	0.3515*	-0.1557***	-0.3092	-0.0027**	-0.0193**	-0.0687	0.1218	0.0600***
	(1.65)	(-4.95)	(-1.28)	(-1.99)	(-2.46)	(-0.70)	(1.15)	(3.24)
DIVI	0.1751	-0.0311**	4.3991***	-0.0465***	-0.0208	1.5223***	-0.0002	0.0410**
	(0.38)	(-2.02)	(8.54)	(-2.62)	(-0.76)	(11.65)	(-0.07)	(2.24)
RPT	0.1013**	0.0028*	0.0720***	0.0114**	0.0041**	0.0454	0.0073*	0.0460**
	(2.06)	(1.69)	(3.27)	(2.23)	(2.27)	(1.62)	(1.82)	(2.38)
DID	0.4788***	0.0027**	2.4519***	0.0984**	0.0057	0.0541***	0.0062**	0.0600***
	(12.12)	(1.99)	(157.19)	(2.10)	(1.18)	(2.68)	(2.24)	(2.61)
Constant	0.6894**	0.1178***	2007.5066***	0.1229***	0.0795***	-0.0864	0.0342***	-0.0840
	(2.01)	(6.14)	(4378.73)	(5.61)	(4.85)	(-0.93)	(3.42)	(-0.90)
No. of observations	15234	15234	15234	15234	6009	6009	6009	6009
R-square	0.56	0.62	0.75	0.79	0.39	0.43	0.56	0.58

*Note: This table reports the results of the DID analysis of the impact of RPTs on firm value. We used Tobin's Q (TQ) and ROA as dependent variables. Models 1, 2, 5, and 6 are based on the regulation period and post-2014 is considered as post-mandate period. Models 3, 4, 7, and 8 are based on firms that made changes to the disclosure of RPTs after the mandate period these were treated as affected firms and firms that voluntarily disclosed RPTs were the control firms. All regressions control for industry and year fixed effects. T-statistics are in brackets. ***, **, * denote significance at the 1%, 5%, and 10% significance level, respectively.*

4.7. Robustness analysis

The robustness of the results is tested by using instrumental variables (IV) regression and the generalized method of moments (GMM) method and are reported in Table 6.

The issue of causality which is well known in the literature, entails the problem of endogeneity in the statistical results. Only limited studies (Dittmar et al., 2003) related to cash holdings have used this method. The IV approach is used to determine variation that is exogenous in treatment and to estimate causal inference. In order to address the endogeneity issue between the excess cash and RPTs, we have used the two-stage least square (2SLS) method. Excess cash as an independent variable in the regression model must be correlated to an error term. Reversal causality could be present as well. In addition to managerial preference and unforeseen contingencies, external factors will also influence cash levels. In our model, we implemented econometric techniques such as IV to address these issues. We employ the IV technique, as proposed by Fresard (2010), to investigate the exogenous element of cash. To ensure robustness, we identify the instruments that correlate with excess cash but not RPT. The capital holdings literature guides on identifying the instruments. The literature has enumerated numerous variables that impact capital reserves (Bates et al., 2009; Dittmar et al., 2003).

Table 6. Robustness check: Impact of excess cash on RPT

Variables	*Panel A*					*Panel B*				
	Brazil	*Russia*	*India*	*China*	*South Africa*	*Brazil*	*Russia*	*India*	*China*	*South Africa*
	Propping					*Tunneling*				
SIZE	0.2291***	-0.3724***	0.3324***	-0.3114***	-0.2042	-0.2715***	0.1125***	0.2379***	-0.7854***	-0.5241**
	(3.21)	(-5.21)	(7.46)	(-8.22)	(-1.07)	(-5.43)	(7.41)	(2.55)	(-3.04)	(-2.08)
LEVE	-0.9755	-0.214***	0.6235***	0.4314**	-0.1351**	-0.7140***	0.6425	0.3121***	-0.1915**	-0.1425***
	(-0.74)	(-5.87)	(5.12)	(2.55)	(-2.23))	(-3.49)	(0.62)	(7.41)	(-2.35)	(-5.61)
PROMO	-0.7544	-0.6032***	0.6246***	0.5521***	-0.6254***	0.6719***	0.6742	0.5357***	0.2465	0.2452***
	(-0.48)	(-7.70)	(9.14)	(5.65)	(-4.11)	(2.64)	(1.27)	(5.42)	(0.16)	(4.12)
INSTI	1.361	0.7576**	-0.8581***	0.8687	0.6228**	0.6324*	0.0645***	-0.1591***	0.0278	0.5371*
	(1.332)	(2.24)	(-9.64)	(0.495)	(2.320)	(1.687)	(4.321)	(-5.82)	(1.563)	(1.87)
PFTY	0.7201***	0.5418***	-0.5157**	0.4563	0.9042	0.1742***	0.1337*	-0.0055	0.0659***	0.2014**
	(3.42)	(7.85)	(-2.38)	(1.22)	(0.703)	(9.09)	(1.82)	(-0.821)	(2.55)	(3.59)
TANG	0.0042***	0.0521***	0.0512***	-0.0741***	0.0505***	-0.0524	-0.0215***	0.0943**	0.0394***	-0.0531***
	(2.64)	(3.55)	(6.12)	(-9.07)	(7.52)	(-0.962)	(-5.37)	(2.25)	(7.32)	(-2.78)
Observations	4817	3083	17383	7012	4178	4817	3083	17383	7012	4178
R-squared	0.254	0.392	0.371	0.357	0.348	0.335	0.402	0.421	0.369	0.494
Year fixed effect	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry fixed effect	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

*Note: This table reports the results of the impact of excess cash on propping and tunneling using IV regression. Panels A and B report the results of tunneling and propping. Detailed variable definitions are provided in Table 1. All regressions control for industry and year fixed effects. T-statistics are in brackets. ***, **, * denote significance at the 1%, 5%, and 10% significance level, respectively. Results of acquisition (ACQ) as IV and GMM analysis are not reported. Results will be made available if required.*

As instruments, we employed tangibility and the lagged value of excess currency. Cash on hand, firm value, and tangible assets are all strongly correlated (Capkun et al., 2009). A correlation between asset tangibility and excess cash may exist, but RPTs do not affect it. Following Berger et al. (2011), we used tangibility as a proxy for surplus cash because it is a function of numerous assets such as fixed capital and inventory. The Sargan test is used to ascertain the correlation between an error term and an instrument.

We allow firm (α_i) and time (t) fixed effects in the IV model. The instrumental cash holdings are estimated as:

$$ECH = \alpha_0 + \beta_1 TANG_{it} + \beta_2 ECH_{it-1it} + U_i + V_t + \varepsilon_{it} \quad (5)$$

Tangibility (*TABG*) defines excess cash but does not have any impact on RPTs. Tangibility is defined as the proportion of total assets that consist of plant, property, and equipment. The instruments we applied explain excess cash very well. Table 5 provides strong evidence of a positive relationship between the IV for excess cash and RPTs which confirms the baseline results indicating that firms are active in keeping excess cash in BRICS countries to encourage RPTs.

Similar to Arellano and Bond (1991) and Dittmar et al. (2003), this study also uses the GMM method which prevents endogeneity problems. We estimated all regression with lagged values for all the variables to check the effect of excess cash on RPTs and we found that results are robust.

5. CONCLUSION

This study looks at the relationship between excess cash in a firm and RPTs, as well as how RPTs affect firm value and whether that relationship changes depending on the type of RPT. This study employs panel regression and IV modelling to address the endogeneity problem between excess cash and RPTs. Our results show that RPT enhances firm value in China by reducing transaction costs, while it has an inverse relationship in Brazil, Russia, India, and South Africa. Our results show that due to highly concentrated ownership and agency conflict, tunneling type of transactions through asset acquisitions, equity sales and cash payments to related parties enhances firm value in concentrated ownership countries such as India and China. In Brazil, Russia, and South Africa, there is no stringent mechanism to monitor RPTs since the ownership structure is not concentrated. Propping type of transactions through loans and guarantees to related parties encourages firm value in all countries, except China, due to the high cost of debt but in China, firms prefer less to depend on internal funds generated through RPTs.

RPTs are found to decline firm value for BRICS but with use of excess cash for RPTs enhances firm value in all the countries which is consistent with transaction cost theory and the precautionary motive of cash holdings. Propping is perceived favorably than tunneling and though excess cash adds value to a firm when used for tunneling, it decreases firm value due to excessive control of controlling shareholders and agency conflicts. When excess cash is used for RPTs and particularly for propping the firm value is increased in BRICS countries due to the low external finance. But when excess cash is used for tunneling, the firm value decreases in Brazil, Russia, and South Africa. China is unique with RPTs enhancing firm value and furthermore with the use of excess cash for RPTs. When excess cash is used for propping, the inverse relationship with firm value in China becomes positive. In India, though RPTs decrease value, the use of excess cash for RPTs enhances firm value. However, with respect to both tunneling and propping, the firm value is enhanced and it is further enhanced when excess cash is used for these activities. Using the Companies Act, 2013, as a DID event we find that companies are complying with RPTs disclosure which enhances firm value. Moreover, stringent regulation on RPTs helps the firms to reduce scandals in India and China.

Overall, the findings indicate that different types of RPTs have different impacts on firm value and that when firms use excess cash for propping, the firm value increases in all countries. Our findings are consistent with pecking order theory and transaction cost theory in that keeping cash for precautionary reasons helps firms lessen the risk faced by their affiliates by offering low-interest financing. Due to the difference in institutional structure, in India and China, tunneling enhances firm value. We provide evidence of the impact of tunneling and propping types of RPTs on firm value which is new in the literature. Further, we provide evidence that firms using excess cash for RPTs and propping drives the firm value. The scope of our research is restricted to only emerging markets, but in future studies, we may expand this study to include other advanced economies.

The study focuses on BRICS countries which limits the generalizability of the findings, as the economic and governance structures in these nations may differ significantly from those in developed economies. Furthermore, the study may encounter endogeneity issues, making it difficult to fully disentangle whether cash holdings influence transactions or vice versa. Lastly, the research may not adequately capture the influence of external factors, such as macroeconomic conditions or regulatory changes, which could play a crucial role in shaping affiliate transactions.

Future research could address these limitations by broadening the scope to include a wider range of countries, both developed and emerging, to provide a more comprehensive global perspective. Researchers could also conduct industry-specific analyses to explore whether the role of cash holdings in affiliate transactions varies across sectors.

REFERENCES

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies, 58*(2), 277–297. https://doi.org/10.2307/2297968

Bae, K.-H., El Ghoul, S., Guedhami, O., & Zheng, X. (2021). Board reforms and dividend policy: International evidence. *Journal of Financial and Quantitative Analysis, 56*(4), 1296–1320. https://doi.org/10.1017/S0022109020000319

Bates, T. W., Chang, C.-H., & Chi, J. D. (2018). Why has the value of cash increased over time? *Journal of Financial and Quantitative Analysis, 53*(2), 749–787. https://doi.org/10.1017/S002210901700117X

Bates, T. W., Kahle, K. M., & Stulz, R. M. (2009). Why do U.S. firms hold so much more cash than they used to? *The Journal of Finance, 64*(5), 1985–2021. https://doi.org/10.1111/j.1540-6261.2009.01492.x

Ben Cheikh, S., & Loukil, N. (2023). Political connections, related party transactions and firm performance: Evidence from Tunisian context. *Journal of Accounting in Emerging Economies, 13*(1), 22–42. https://doi.org/10.1108/JAEE-10-2020-0287

Berger, P. G., Li, F., & Wong, M. H. F. (2011). *The impact of Sarbanes-Oxley on cross-listed companies.* https://shorturl.at/3aoIz

Bernotas, D. (2005). Ownership structure and firm profitability in the Japanese keiretsu. *Journal of Asian Economics, 16*(3), 533–554. https://doi.org/10.1016/j.asieco.2005.04.010

Bhandari, A., Kohlbeck, M., & Mayhew, B. (2022). Association of related party transactions with sensitivity of investments and external financing. *Journal of Corporate Finance, 72*, Article 102146. https://doi.org/10.1016/j.jcorpfin.2021.102146

Cai, W., Zeng, C., Lee, E., & Ozkan, N. (2016). Do business groups affect corporate cash holdings? Evidence from a transition economy. *China Journal of Accounting Research, 9*(1), 1–24. https://doi.org/10.1016/j.cjar.2015.10.002

Capkun, V., Hameri, A., & Weiss, L. A. (2009). On the relationship between inventory and financial performance in manufacturing companies. *International Journal of Operations & Production Management, 29*(8), 789–806. https://doi.org/10.1108/01443570910977698

Chen, A., Kao, L., & Lu, C.-S. (2014). Controlling ownership and firm performance in Taiwan: The role of external competition and internal governance. *Pacific-Basin Finance Journal, 29*, 219–238. https://doi.org/10.1016/j.pacfin.2014.04.007

Cheung, Y.-L., Rau, P. R., & Stouraitis, A. (2006). Tunneling, propping, and expropriation: Evidence from connected party transactions in Hong Kong. *Journal of Financial Economics, 82*(2), 343–386. https://doi.org/10.1016/j.jfineco.2004.08.012

Cho, S., & Lim, K.-M. (2018). Tunneling by related-party transactions: Evidence from Korean conglomerates. *Asian Economic Journal, 32*(2), 147–164. https://doi.org/10.1111/asej.12146

Claessens, S., & Fan, J. P. H. (2002). Corporate governance in Asia: A survey. *International Review of Finance, 3*(2), 71–103. https://doi.org/10.1111/1468-2443.00034
Dittmar, A., & Mahrt-Smith, J. (2007). Corporate governance and the value of cash holdings. *Journal of Financial Economics, 83*(3), 599–634. https://doi.org/10.1016/j.jfineco.2005.12.006
Dittmar, A., Mahrt-Smith, J., & Servaes, H. (2003). International corporate governance and corporate cash holdings. *The Journal of Financial and Quantitative Analysis, 38*(1), 111–133. https://doi.org/10.2307/4126766
Downs, D. H., Ooi, J. T. L., Wong, W.-C., & Ong, S. E. (2016). Related party transactions and firm value: Evidence from property Markets in Hong Kong, Malaysia and Singapore. *The Journal of Real Estate Finance and Economics, 52*, 408–427. https://doi.org/10.1007/s11146-015-9509-0
Fresard, L. (2010). Financial strength and product market behavior: The real effects of corporate cash holdings. *The Journal of Finance, 65*(3), 1097–1122. https://doi.org/10.1111/j.1540-6261.2010.01562.x
Friedman, E., Johnson, S., & Mitton, T. (2003). Propping and tunneling. *Journal of Comparative Economics, 31*(4), 732–750. https://doi.org/10.1016/j.jce.2003.08.004
Gilson, R. J., & Gordon, J. N. (2003). Controlling controlling shareholders. *University of Pennsylvania Law Review, 152*(2), 785–843. https://doi.org/10.2307/3313035
Gompers, P. A., & Metrick, A. (2001). Institutional investors and equity prices. *The Quarterly Journal of Economics, 116*(1), 229–259. https://doi.org/10.1162/003355301556392
Gopalan, R., Nanda, V., & Seru, A. (2007). Affiliated firms and financial support: Evidence from Indian business groups. *Journal of Financial Economics, 86*(3), 759–795. https://doi.org/10.1016/j.jfineco.2006.09.008
Gordon, E. A., & Henry, E. (2005). *Related party transactions and earnings management*. http://doi.org/10.2139/ssrn.612234
Hu, S., Shen, Y., & Xu, Y. (2009). Determinants of related-party transactions: Evidence from China's listed companies during 2002–2006. *Frontiers of Business Research in China, 3*, 190–206. https://doi.org/10.1007/s11782-009-0010-6
Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review, 76*(2), 323–329. https://www.jstor.org/stable/1818789
Jiang, F., & Kim, K. A. (2015). Corporate governance in China: A modern perspective. *Journal of Corporate Finance, 32*, 190–216. https://doi.org/10.1016/j.jcorpfin.2014.10.010
Jiang, J., & Wu, S. (2022). The effects of cash-holding motivation on cash management dynamics. *Research in International Business and Finance, 59*, Article 101542. https://doi.org/10.1016/j.ribaf.2021.101542
Johnson, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2000). Tunneling. *American Economic Review, 90*(2), 22–27. https://doi.org/10.3386/w6955
Khanna, T., & Palepu, K. (1999). *Emerging market business groups, foreign intermediaries, and corporate governance* (NBER Working Paper No. 6955). National Bureau of Economic Research (NBER). https://doi.org/10.3386/w6955
Kohlbeck, M., & Mayhew, B. W. (2010). Valuation of firms that disclose related party transactions. *Journal of Accounting and Public Policy, 29*(2), 115–137. https://doi.org/10.1016/j.jaccpubpol.2009.10.006
Kohlbeck, M., & Mayhew, B. W. (2017). Are related party transactions red flags? *Contemporary Accounting Research, 34*(2), 900–928. https://doi.org/10.1111/1911-3846.12296
Kuan, L., Tower, G., Rusmin, & Van der Zahn, J.-L. W. M. (2010). Related party transactions and earnings management. *Jurnal Akuntansi dan Auditing Indonesia, 14*(2), 115–137. https://journal.uii.ac.id/JAAI/article/view/2255
La Porta, R., Lopez-De-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance, 54*(2), 471–517. https://doi.org/10.1111/0022-1082.00115
Liu, Q., & Lu, Z. (2007). Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective. *Journal of Corporate Finance, 13*(5), 881–906. https://doi.org/10.1016/j.jcorpfin.2007.07.003
Liu, Q., & Tian, G. (2012). Controlling shareholder, expropriations and firm's leverage decision: Evidence from Chinese non-tradable share reform. *Journal of Corporate Finance, 18*(4), 782–803. https://doi.org/10.1016/j.jcorpfin.2012.06.002
Lo, A. W. Y., & Wong, R. M. K. (2011). An empirical study of voluntary transfer pricing disclosures in China. *Journal of Accounting and Public Policy, 30*(6), 607–628. https://doi.org/10.1016/j.jaccpubpol.2011.08.005
Martínez-Sola, C., García-Teruel, P. J., & Martínez-Solano, P. (2013). Corporate cash holding and firm value. *Applied Economics, 45*(2), 161–170. https://doi.org/10.1080/00036846.2011.595696
McGee, R. W. (Ed.). (2009). *Corporate governance in developing economies: Country studies of Africa, Asia and Latin America*. Springer. https://doi.org/10.1007/978-0-387-84833-4
Min, B.-S., Chen, C.-N., & Tien, C. (2022). Firms' responses to corporate governance reform in an emerging economy from the perspective of institutional logics. *Journal of Business Research, 147*, 278–289. https://doi.org/10.1016/j.jbusres.2022.04.025
Opler, T., Pinkowitz, L., Stulz, R., & Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics, 52*(1), 3–46. https://doi.org/10.1016/S0304-405X(99)00003-3
Parliament of India. (2013). The Companies Act, 2013. https://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf
Peng, M., & Jiang, Y. (2006). *Family ownership and control in large firms: The good, the bad, the irrelevant — And why* (Working Paper No. 840). William Davidson Institute. http://doi.org/10.2139/ssrn.938173
Peng, W. Q., Wei, K. C. J., & Yang, Z. (2011). Tunneling or propping: Evidence from connected transactions in China. *Journal of Corporate Finance, 17*(2), 306–325. https://doi.org/10.1016/j.jcorpfin.2010.08.002
Pinkowitz, L., Stulz, R., & Williamson, R. (2006). Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. *The Journal of Finance, 61*(6), 2725–2751. https://doi.org/10.1111/j.1540-6261.2006.01003.x
Ryngaert, M., & Thomas, S. (2012). Not all related party transactions (RPTs) are the same: Ex ante versus ex post RPTs. *Journal of Accounting Research, 50*(3), 845–882. https://doi.org/10.1111/j.1475-679X.2012.00437.x
Salehi, M., Dashtbayaz, M. L., & Abdulhadi, K. H. (2022). The relationship between managerial entrenchment and firm risk-taking on social responsibility disclosure. *Journal of Public Affairs, 22*(3), Article e2511. https://doi.org/10.1002/pa.2511

Sarkar, J., & Sarkar, S. (2000). Large shareholder activism in corporate governance in developing countries: Evidence from India. *International Review of Finance, 1*(3), 161–194. https://doi.org/10.1111/1468-2443.00010

Securities and Exchange Board of India (SEBI). (2015). Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 [Last amended on September 20, 2023]. *Gazette of India.* https://shorturl.at/1Mhap

Srinivasan, P. (2013). *An analysis of related-party transactions in India* (Working Paper No. 402). Indian Institute of Management Bangalore. http://doi.org/10.2139/ssrn.2352791

The Institute of Company Secretaries of India. (2016). *Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015: A referencer.* https://shorturl.at/9GuZt

Thenmozhi, M., Saravanan, P., & Sasidharan, A. (2019). Impact of excess cash on earnings management and firm value: Evidence from China [Special issue]. *Corporate Ownership & Control, 17*(1), 245–254. https://doi.org /10.22495/cocv17i1siart7

Tsai, J.-F., Mai, N. T., & Bui, D. G. (2022). Managerial ability, financial constraints, and the value of cash holding. *Applied Economics Letters, 29*(5), 462–468. https://doi.org/10.1080/13504851.2020.1870917

Usman, M., Gull, A. A., Zalata, A. M., Wang, F., & Yin, J. (2022). Female board directorships and related party transactions. *British Journal of Management, 33*(2), 678–702. https://doi.org/10.1111/1467-8551.12568

Wasiuzzaman, S. (2018). Determinants of liquidity in Malaysian SMEs: A quantile regression approach. *International Journal of Productivity and Performance Management, 67*(9), 1566–1584. https://doi.org/10.1108/IJPPM-12-2017-0354

Yeh, Y.-H., Shu, P.-G., & Su, Y.-H. (2012). Related-party transactions and corporate governance: The evidence from the Taiwan stock market. *Pacific-Basin Finance Journal, 20*(5), 755–776. https://doi.org/10.1016 /j.pacfin.2012.02.003

APPENDIX

Table A.1. Impact of excess cash on RPTs: Evidence from BRICS

Variables	***Panel A***			***Panel B***			***Panel C***			***Panel C***			***Panel E***		
	Brazil			***Russia***			***India***			***China***			***South Africa***		
	(1)	***(2)***	***(3)***	***(1)***	***(2)***	***(3)***	***(1)***	***(2)***	***(3)***	***(1)***	***(2)***	***(3)***	***(1)***	***(2)***	***(3)***
	RPT	***Tunnel***	***Prop***	***RPT***	***Tunnel***	***Prop***	***RPT***	***Tunnel***	***Prop***	***RPT***	***Tunnel***	***Prop***	***RPT***	***Tunnel***	***Prop***
SIZE	-0.0235***	-0.0022**	-0.0533**	-0.0248**	0.0543***	0.0114***	0.0068	0.0032***	0.0019	0.0155*	0.1675***	0.0027**	0.00125*	0.0268***	-0.0634***
	(-2.68)	(-2.05)	(-2.29)	(-2.46)	(5.17)	(6.71)	(0.65)	(5.61)	(0.66)	(1.95)	(4.35)	(2.15)	(1.65)	(3.20)	(-6.25)
LEVE	-0.0654*	-0.0360	0.0396***	-0.2804**	-0.0886*	-0.1906***	-0.0134	0.0647***	0.0015	-0.1017*	-0.0026**	-0.0014***	0.0058***	-0.0171***	-0.0111
	(-1.68)	(1.60)	(2.79)	(-2.24)	(-1.71)	(-2.54)	(-0.39)	(4.42)	(1.19)	(-1.88)	(-2.03)	(-3.60)	(4.00)	(-3.39)	(-1.22)
PFTY	0.0482***	0.5341***	0.0846**	-0.0818**	-0.0684**	-0.1432***	0.0180*	0.0678***	0.0123	-0.0405**	0.0310**	-0.4009**	-0.0424***	-0.0232***	0.1231
	(3.90)	(6.23)	(2.06)	(-2.10)	(-2.07)	(-4.99)	(1.85)	(3.83)	(1.18)	(-2.49)	(2.41)	(-2.43)	(-3.12)	(4.29)	(1.30)
PROMO	0.0623***	0.129***	-0.2434**	0.0206***	0.1699***	0.0282	0.1174***	0.1139***	0.0553***	-0.0875***	-0.1769***	0.0986***	-0.1722**	-0.0628***	-0.0546***
	(4.17)	(3.08)	(-2.14)	(2.83)	(3.89)	(1.27)	(3.46)	(3.84)	(6.50)	(-5.61)	(-5.07)	(3.52)	(-1.97)	(-4.44)	(2.75)
INSTI	0.2988***	-0.0151***	-0.3299***	0.2226*	0.0467	0.0215***	0.3184*	-0.2226**	-0.0431***	-0.1278***	-0.5127***	-0.3722***	-0.0599***	-0.1544***	-0.494***
	(3.78)	(-5.30)	(-4.23)	(1.71)	(1.32)	(3.62)	(1.95)	(-2.37)	(5.59)	(-7.04)	(-3.89)	(-2.66)	-(6.17)	(-5.08)	(-2.72)
ECH	0.6301***	-0.2905*	0.0137	0.0462***	0.0403*	0.0107**	0.0358***	0.00376**	0.0250**	0.0811***	0.0218***	-0.272***	0.0498**	-0.0276***	0.00712***
	(5.72)	(-1.91)	(1.20)	(3.48)	(1.73)	(2.05)	(3.51)	(2.28)	(2.13)	(8.92)	(3.52)	(-4.10)	(2.15)	(-3.57)	(6.90)
CON	-0.0372	0.0530**	-0.0175	-0.0113**	0.2616**	-0.0715	0.0212**	0.2965***	0.0287***	0.0452***	0.0351***	0.0267***	0.0545***	0.2317**	0.0577***
	(-0.54)	(2.38)	(-1.55)	(-2.28)	(2.25)	(-0.21)	(2.20)	(3.14)	(2.90)	(2.74)	(2.74)	(6.05)	(4.07)	(2.39)	(3.74)
Observations	3545	3545	3545	2583	2583	2583	6289	6286	6290	4598	4598	4598	2258	2255	2255
R-squared	0.445	0.223	0.205	0.325	0.229	0.404	0.259	0.327	0.321	.455	0.201	22.87	0.342	0.271	0.342
Year effect	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry effect	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

*Note: This table reports the results of the impact of excess cash on RPT. Panels A, B, C, D, and E report the results of Brazil, Russia, India, China, and South Africa. Model 1 represents the results of control variables. Model 2 represents the result of promoter ownership. Model 3 represents the result of institutional ownership. Model 4 represents the result of excess cash. Detailed variable definitions are provided in Table 1. All regressions control for industry and year fixed effects. T-statistics are in brackets. ***, **, * denote significance at the 1%, 5%, and 10% significance level, respectively.*