SHARE PLEDGING AND ITS CONSEQUENCES: A STUDY OF INDIAN FIRMS

TSCFE WHITE PAPER SERIES
NO. 007, SEPTEMBER 2021

AUTHORS

NUPUR PAVAN BANG
SOUGATA RAY
NANDIL BHATIA
KAVIL RAMACHANDRAN

THOMAS SCHMIDHEINY CENTRE FOR FAMILY ENTERPRISE
INDIAN SCHOOL OF BUSINESS

CONTENTS

EXECUTIVE SUMMARY

In a bid to further the understanding of family firms in India, Thomas Schmidheiny Centre for Family Enterprise, Indian School of Business, carries out in depth, relevant and timely research on various topics concerning family firms. This is another such attempt. The objective of this study is to ascertain the implications of share pledging on different types of firms in India, with special focus on family firms. The various scandals, loss of control of the firm by family promoters, regulatory responses and warnings led to the common perception that all share pledges by promoters are bad. Existing empirical research around pledging of shares has also failed to account for the heterogeneity among the possible use-cases of capital obtained from pledging of shares. The report calls for more nuanced studies on pledging to explore this anomaly contextually and to avoid painting all cases with the same brush.

Using data for 1,492 firms listed on the National Stock Exchange of India from 2009 to 2019, the study finds a decline in firm value, higher crash risk and underinvestment in innovation by firms where promoters of family firms pledge their shares. Interestingly, both the degree of pledging and the associated governance consequences are comparatively subdued for non-family firms. We do not find a significant difference in the observed consequences of pledging between standalone family firms and family firms associated with business groups. The study also shows how some firms have utilized share pledging by family promoters as a tool to raise capital for strategic projects and create value for the stakeholders.

We raise calls for investors, regulators, and the family to closely evaluate the phenomenon of pledging due to its significant impact on the firm's value and governance mechanisms. We provide a clarion call for acknowledging that it is an important tool to access financial capital for family promoters. It acts as an important resource to promote entrepreneurial financing amongst family businesses and as a source of fund to turnaround the family firm if it is in trouble. Future studies on share pledging by family promoters must closely evaluate the risks, rewards and motivations of the promoters when pledging their shares. Along with large sample data driven research, there is a need for case study based research on pledging in order to understand the nuanced variations in promoter choices and causes and consequences of the same.

SHARE PLEDGING AND ITS CONSEQUENCES: A STUDY OF INDIAN FIRMS

1. INTRODUCTION

Pledging of shares, that is, the use of shares held in a company as collateral to avail loans, is a popular tool for promoters (primary shareholders of a firm) to raise funds in times when credit access is limited to them. Promoters utilize funds obtained from pledging for a variety of reasons. They may use the proceeds of pledging to advance interests of the same firms, or any other firms owned by the promoters, to create new business ventures or for other personal uses. Despite the popularity of pledging among promoters as a legitimate tool to raise funds, it is generally stigmatized as the popular view on pledging seems to be quite negative.

The commonly peddled negative narrative on pledging often dissuades fact based, informed, balanced, and nuanced debates on its utility, causes and consequences, backed by rigorous research in spite of its ubiquity in India and many other economies of the world. In a rare attempt Dou, Masulis & Zein (2019) recently reported pledging in Taiwanese firms and detailed out the performance and governance implications of pledging by insiders (such as managers and firm directors). India as a high growth big emerging economy provides a much richer context than Taiwan to study the phenomenon of pledging due to the omnipresence of heterogenous individual and multigenerational family promoters, the dominance of business group structure and a reasonably diverse and robust capital market aided by progressively improving institutional framework.

Promoters of family as well as non-family firms in India hold significant stakes in the firm (often greater than 50 percent), and exercise enormous control over the firm’s operations (Bang, Ray, Ramachandran, & Vishwanathan, 2018). It has been widely reported in popular press that despite the high family shareholding and managerial control, promoters of family firms, such as Zee Entertainment, Reliance ADA Group and Café Coffee Day, that had pledged shares of their firms, had lost ownership and sometimes management control of their firms, destroyed considerable family wealth and resulted in significant loss of wealth for non-family investors. However, anecdotal evidences also suggest that several family firms or business groups such as Asian Paints, Apollo Hospitals, Granules India and Laurus Labs benefitted significantly from judicious use of pledging by the family promoters. Evidently, concentrated shareholding implies high personal stake for the family promoters in the firm and their decision to pledge also has an impact on the wealth of other shareholders. These contrasting anecdotal evidences on the impact of pledging by promoters on the fortune of the firms and paradox of substantial negative perception of pledging, yet it's popularity, pique our interest to study its consequences in depth.

In a bid to further the understanding of family firms in India, Thomas Schmidheiny Centre for Family Enterprise (TSCFE), Indian School of Business, carries out in depth, relevant and timely research on various topics concerning family firms. This is another such attempt. The objective of this study is to ascertain the implications of pledging on different types of firms in India, with special focus on family firms. That is, what are the consequences of pledging in terms of growth, profitability, risk, value creation, and control for promoters of different categories, viz. family and non-family, of firms in India? We further examine if heterogeneous family firms face different consequences, that is, do implications differ for standalone family firms (SFFs) and firms affiliated to family business groups (FBGFs)?

To answer the above questions, we adopt the analytical methods used by Dou et. al (2019) for some of our analyses using data for 1,492 NSE listed firms from 2009 to 2019. The research on pledging of shares is scanty. Moreover, we do not find any other rigorous study that has delved into a family context while studying pledging of shares. The Dou et. al. (2019) paper is a seminal paper on pledging of shares in the Taiwanese context. Using this paper as a guide we have improvised the methods wherever needed to suit the context of Indian family firms' for gaining robust data driven and interesting insights.

We find that pledging is generally associated with a decline in firm-value among family firms, both in the short-term and the long-term. We observe that this decline in firm value is due to two primary reasons – a higher crash risk and an increase in promoter risk-aversion following the pledge. These findings are in line with Dou et. al (2019). We also enlist a few cases among family firms where pledging has been beneficial to the firm. Interestingly, both the degree of pledging and the associated governance consequences are comparatively subdued for non-family firms. We do not find a significant difference in the observed consequences of pledging between SFFs and FBGFs. We conclude our study with a discussion of our findings and present implications for all the stakeholders associated with pledging.

2. THE MECHANISM OF PLEDGING

Financial institutions generally require collaterals while disbursing loans to reduce the financial risk stemming from an unforeseen default on the loans. Shareholders can legally offer their shares to financial institutions as collateral to avail loans (that is, share pledging). The value of a shareholder's holding in a company, by nature, is highly variable due to the constant variation in the stock price of a firm. Due to this variability in the collateral value, financial institutions require shareholders to provide asset covers while disbursing the loans. For example, a bank may ask the shareholder to provide shares worth 3 times the value of the disbursed loan, that is, an asset cover of 3, to cover the risk of default and maintain a loan's margin.

In the unforeseen event that the share price falls, and the asset cover falls below a pre-determined value, the financial institution would raise a margin call to the shareholder. Consequently, the shareholder is required to either top-up the loan with more shares or pay off a portion of the loan's principal to increase the existing asset cover back to the pre-determined value. If the shareholder answers the margin call in the stipulated time, they will continue to own the shares.

If the shareholder is unable to answer the margin call, the financial institution has the right to sell the shares in the market. The news of a margin call is generally perceived negatively by investors and the sale of a block of shares of a company in the open market accentuates the negative sentiment associated with the stock. Investors may indulge in panic selling of the stock. The increased supply of shares puts downward pressure on the stock price, thereby warranting further sale of shares by the lending financial institutions. Thus, the mechanisms of pledging and margin calls may lead to a negative spiral in the firm's stock price and increase the firm's crash risk.

In countries where diversified ownership is relatively common, such as the United States, pledging is generally done by directors and executives to hedge and diversify their personal wealth. However, in India, pledging often serves as a mechanism to generate financial capital for the focal firm or its affiliates belonging to the same business group. The traditional family structure and joint ownership of assets such as real estate, buildings, and other physical assets through a Hindu undivided family (HUF), holding company or trust make it difficult to pledge or sell those assets. Thus, promoters with large equity shareholdings may find it easier to leverage their shares as collateral to set up new companies/ventures or enter new markets through existing companies owned by them. Funds generated from pledging the shares of one firm may end up being ploughed back into the firm, flow to another firm owned by the promoter, or be used for alternative personal utility of the promoter. The ease with which promoters can pledge their shares and the difficulties associated with raising funds through other sources have made pledging very popular in India. So much so that the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI) have not only had to warn the investors of its consequences, but also to introduce certain pledging specific guidelines.

3. BACKGROUND AND THE STIGMA

The RBI, in its Financial Stability Report (RBI, 2019), outlined that pledging of shares could become an infectious disease for the Indian economy, if left unchecked. The exposure of Indian institutions (banks and financial institutions) as well as mutual funds to pledged shares has seen a considerable jump in the last decade. The aggregate exposure of Indian lenders to pledged shares stood at approximately ₹2.25 trillion (~ $ 32.3 Billion)[1] in March 2019.

Share pledging has been prevalent in India for decades. However, it seeped into the public consciousness following the Satyam episode in 2009 when Ramalinga Raju, the promoter of Satyam Computer Services Ltd., disclosed to Satyam's board in January 2009 that he had pledged approximately 12.3 billion INR worth of his shares in the firm. Raju's declaration about the share pledge was followed by multiple other revelations, such as fudging of accounts and illegal transactions by the promoters to falsely present a rosy picture of the company's financial health. Consequently, on that day, Satyam lost 94 percent of its market capitalization on the New York Stock Exchange (NYSE) and 78 percent on the NSE.

The SEBI responded with an immediate regulatory amendment post the Satyam disclosure. The Regulation 8A was added to the existing Substantial Acquisition of Shares and Takeovers (SAST) Regulations of 1997. It was mandated that all stock pledges would need to be disclosed to the stock exchanges within seven days, and the shareholders would have a further period of seven days to make it public. The disclosure requirements and the immediate stigma around pledging naturally reduced the incidence of pledging in the first year following SEBI's mandate. Since then,

[1] At the prevailing Exchange rates in March 2019, 1 USD = 69.7 INR

there has been a steady increase in the number of companies where promoters have pledged their shares and the degree of promoter pledging (**Exhibit 1a and 1b**).

Exhibit 1a: Share Pledging in NSE listed companies

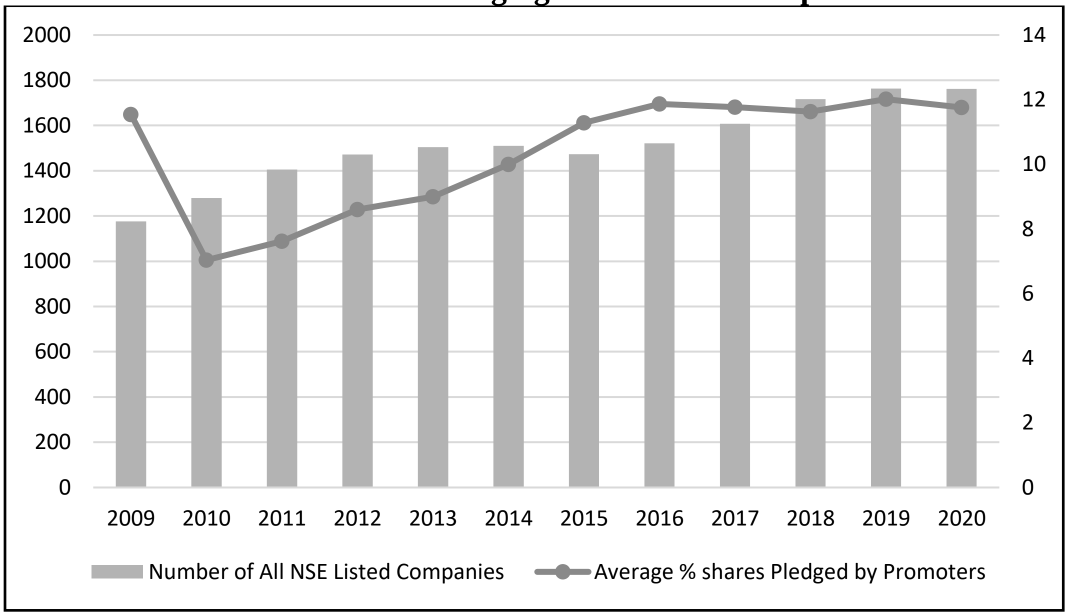
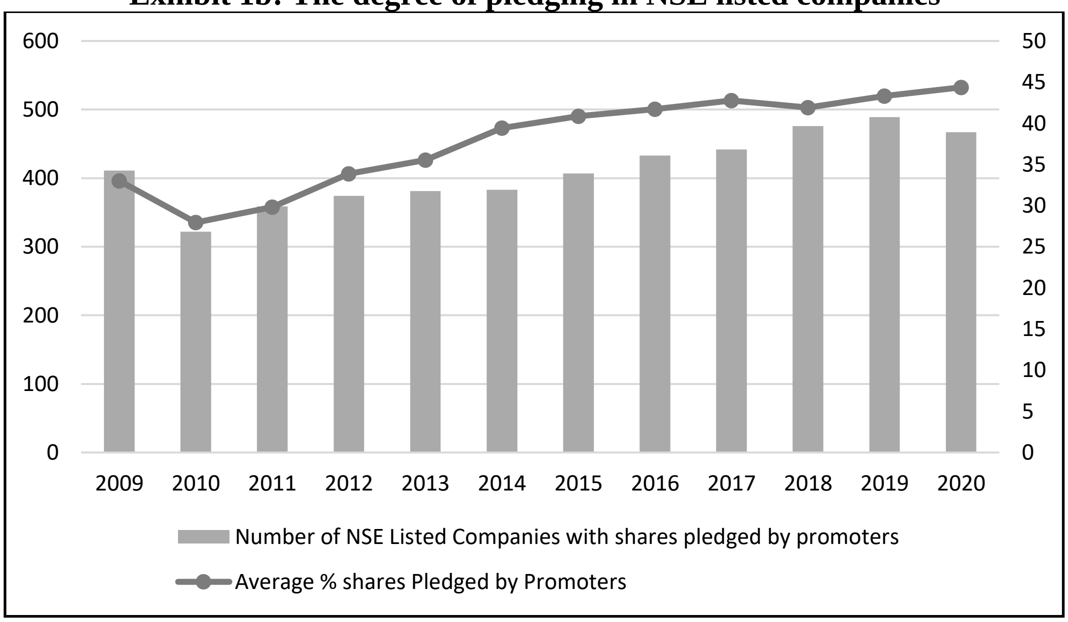


Exhibit 1b: The degree of pledging in NSE listed companies

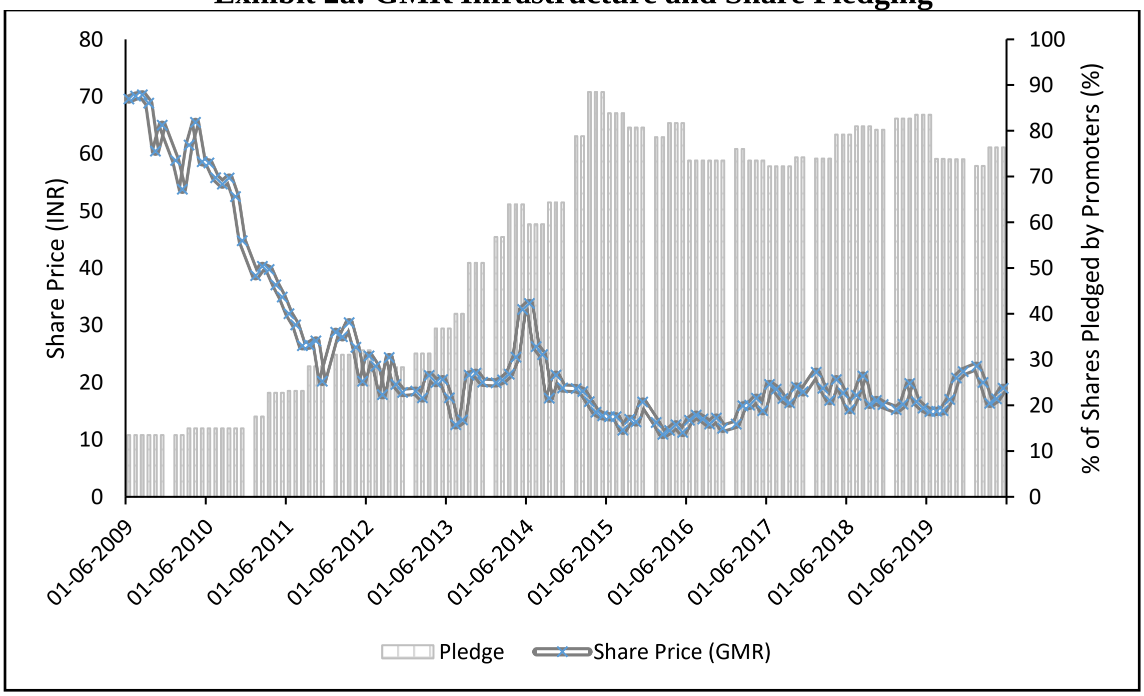


As on March 31, 2020, promoters of 26 percent of all NSE listed companies had pledged their shares. On average, 12 percent of promoter shares across all companies were pledged. If we consider only those companies where promoters had pledged shares, the average pledge percent is a staggering 44 percent of the promoters' holdings.

The Institutional Shareholder Services Inc (ISS), the largest provider of corporate governance solutions globally, considers excessive pledging as a corporate governance failure (ISS ESG, 2021). As per the ISS, "*an executive or director may be forced to sell a substantial amount of shares, [causing] significant risks for other shareholders, who may see the value of their shares decline*." In India, SEBI continues to take a close and critical regulatory view on pledging of shares and has periodically introduced new disclosure norms for promoters around pledging. In June 2019, a new regulation mandated the disclosure of the reason behind each share pledge of the promoter, if the promoter's total encumbrance increases to more than 50 percent of their holding, or the total encumbrance of the firm becomes greater than 20 percent of the outstanding stock.[2]

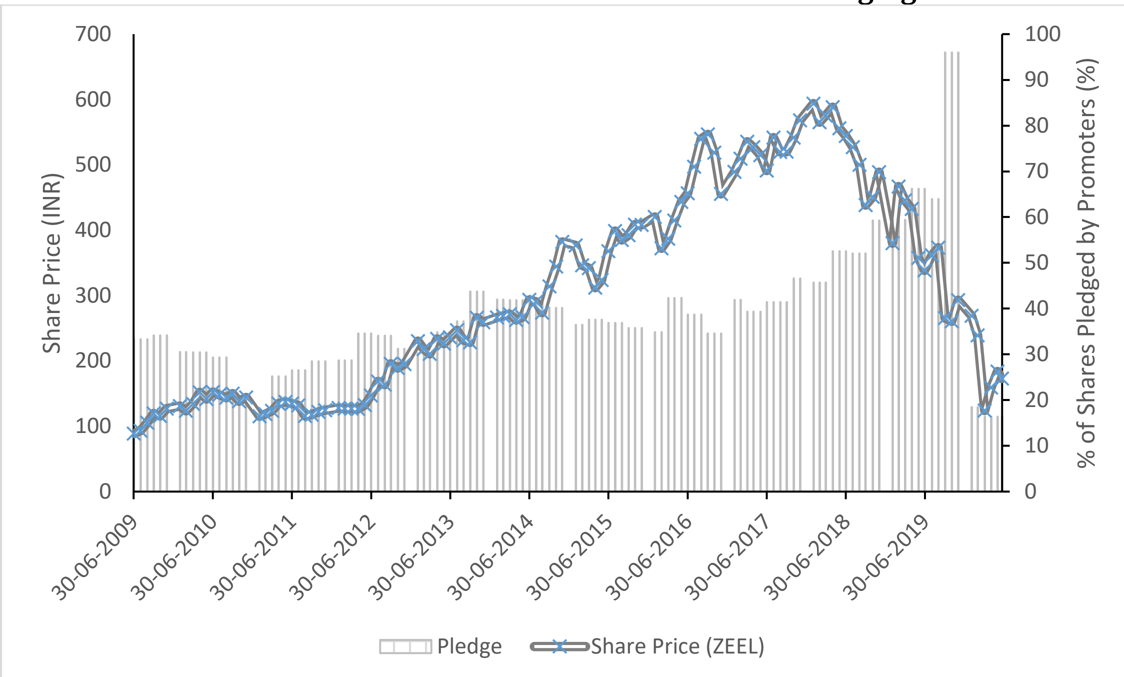
Despite warnings and increasingly stringent regulatory requirements, pledging of shares by promoters remains a popular phenomenon. Unfortunately, investors in India have witnessed several instances where prominent listed entities, especially family firms, have seen their stock price plummet following pledging. Examples include GMR Infrastructure (**Exhibit 2a**) and Zee Entertainment (**Exhibit 2b**).

Exhibit 2a: GMR Infrastructure and Share Pledging



[2]https://economictimes.indiatimes.com/markets/stocks/news/sebi-tightens-disclosure-norms-for-pledged-shares-approves-dvr-framework-for-tech-startups/articleshow/69974927.cms?from=mdr

Exhibit 2b: Zee Entertainment and Share Pledging



To make matters worse, several family promoters have lost control of their firms owing to excessive pledging. For example, Subhash Chandra (Zee Entertainment) and Anil Ambani (Reliance ADA Group) lost ownership and control of their firms due to a combination of erroneous business decisions and excessive pledging of shares (**Exhibit 2c**). Given that these firms were in the public eye, such instances of pledging and subsequent loss of investors' wealth and/or promoter's control have accentuated the negative public sentiments around pledging in India.

Exhibit 2c: Loss of Control at Zee and Reliance Communications

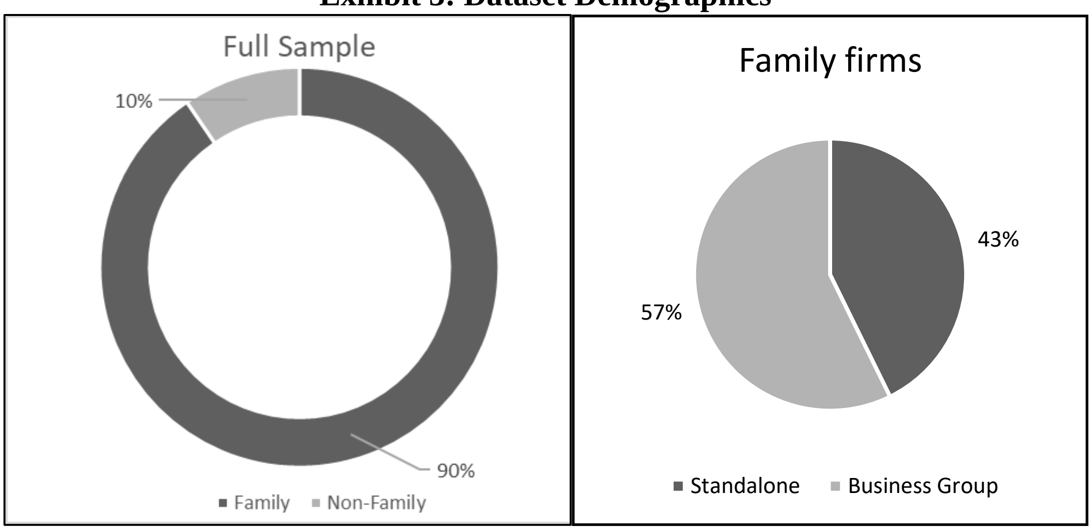
	Zee Entertainment		Reliance Communications	
Date	Total Promoter Holding (%)	% of Promoter Holding Pledged	Total Promoter Holding (%)	% of Promoter Holding Pledged
3/31/2014	43.06	41.84	67.80	0
3/31/2015	43.06	37.61	59.69	16.82
3/31/2016	43.06	42.35	58.84	29.69
3/31/2017	43.06	39.32	58.84	64.34
3/31/2018	41.62	52.55	52.96	30.02
3/31/2019	38.20	66.18	21.99	22.06
3/31/2020	4.77	16.38	5.18	0

4. DATA AND METHODS

Pledging disclosures in India were mandated only in 2009 following the Satyam corporate governance scandal. Hence, our sample includes all firms listed on the NSE between 2009 and 2019. For pledging-related information, we rely on the Pledgors database maintained by Primeinfobase. The remaining firm-specific dependent and independent variables are either directly downloaded or computed using data from the CMIE Prowess database. We randomly verified the information obtained from Primeinfobase and CMIE Prowess databases with the annual reports of listed companies.

We have adopted the family and non-family classification of NSE listed firms developed by the TSCFE. TSCFE classifies a firm as a family firm on the basis of a minimum ownership of 20 percent equity shares by the family members and management control or succession/business continuity. Further, TSCFE classifies the family firms into firms affiliated to family business group (FBGF) and standalone family firms (SFF)[3] (Bang, Ray and Ramachandran 2017). The demographics of the dataset are attached in **Exhibit 3**. A large portion of firm-year observations (~90 percent) in our sample are family firms and 57 percent of family firms are firms affiliated to a family business group.

Exhibit 3: Dataset Demographics



[3] Refer to the white paper "Family Businesses: The emerging landscape- 1990-2015" for a detailed description of the methodology used to classify the firms; https://www.isb.edu/content/dam/sites/isb/research-thought-leadership/research-center/tscfe/WP-FB-The%20Emerging%20Landscape.pdf and Appendix 1 and 2

We remove firms from the financial services sector (NIC Code 64) due to their heterogeneity to other firms in our sample. We also lose out on certain observations due to unavailability of data. We have verified that the unavailability of data is random and unrelated to either the dependent or independent variables. The definitions of our primary dependent and independent (pledging-related) variables are presented in **Exhibit 4**.

In line with Dou et. al (2019), we attempt to control for confounding factors in two ways. First, we run our OLS regression models with firm and year fixed effects. Secondly, we include several control variables in our models (also listed in Exhibit 4). We winsorize some of the control variables at the 1 and 99 percent levels for each year to reduce the effect of outliers on our analysis.

Exhibit 4: Variable Definitions (Dependent and Independent Variables)

Variable	Definition
Promoter Pledge (%)	The proportion of shares of the promoter that are pledged to financial institutions at the end of the financial year
Promoter Pledge Dummy (>75%)*	Takes a value of 1 if the proportion of shares of the promoter that are pledged is greater than 75%; the value is 0 otherwise
Tobin's Q	The ratio of the sum of total market capitalization of the firm at the end of year and the book value of debt to the book value of total assets of the firm
Return on Assets	The ratio of Profit After Tax to the average assets of the firm during the year
Value at Risk (VAR)	The negative value of the cut-off of the bottom one percentile of the firm's daily stock returns over the past 12 months of the year.
Expected Shortfall	The negative value of the simple average of the firm's daily stock returns that are within the bottom one percentile over the past 12 months of the year
Tail Risk	The deviation from the mean return, conditional upon breaching the VAR threshold (the lowest one percentile of returns over the past year)
R&D Ratio	The ratio of the Research and Development expenditure in a particular year to the previous year-end's total assets
Asset Growth	The natural logarithm of the ratio of the total assets at the end of a particular year to the total assets at the end of the previous year
Control Variables: Promoter Shareholding, Firm Size, Firm Age, Sales Growth, Cash Ratio, Leverage, CAPEX, Volatility, Total Directors, Independent Directors, Trading Volume	
*This dependent variable is to distinguish firms with very high percent of shares pledged by promoters from those with lower degrees of pledging.	

5. FIRM VALUE

First, we attempt to ascertain the impact of pledging on firm value both in the short-term and the long-term. To measure the short-term abnormal returns around share pledge announcements, we conduct an event study. As seen in **Exhibit 5**, we run a Fama-French three factor model to measure abnormal returns for the three days around a share pledge announcement, where the announcement date is day 0. We remove confounding events from our analysis and ensure that we isolate the impact of pledging on a shareholder response.

Exhibit 5: Shareholder Reaction to Pledging announcements (Event Study)

	Transaction Type	N	Mean#	t-value
1. Family firms	Pledge Creation	4,685	-0.384	-5.392***
	Pledge Invocation	753	-1.409	-4.975***
	Pledge Release	3695	-0.043	-0.5565
1a. Standalone Family firms	Pledge Creation	1379	-0.348	-2.1432***
	Pledge Invocation	369	-1.522	-3.368***
	Pledge Release	989	-0.035	-0.197
1b. Family Business Group firms	Pledge Creation	3306	-0.399	-5.331***
	Pledge Invocation	384	-1.3	-3.348***
	Pledge Release	2706	-0.046	-0.551
2. Non-Family firms	Pledge Creation	165	0.105	0.275
	Pledge Invocation	40	-1.892	-2.15***
	Pledge Release	136	0.584	1.476

 # All abnormal returns are calculated using the Fama French Three Factor Model (-1,1)
****significant at 0.001 level*
Note: As a robustness test, we conducted the event study for windows centered around a share pledge over 5 days (-2 to +2) and 7 days (-3 to +3) as well. Our results do not differ significantly across each of these windows.

We find that the short-term investor reaction to share pledging by promoters is significantly negative across family firms. There is no counter-positive reaction seen when the share pledge is released (de-pledged). Forced sale of shares (pledge invocations) are expectedly accompanied by even higher negative investor reactions. We do not find a definitive investor reaction to share pledges among non-family firms. However, even for non-family firms, there is significant negative abnormal returns in the event of pledge invocation, signaling the loss of confidence of investors in the firm and the firm itself being in trouble. The event of pledging invocation is found to destroy value of any types of firms.

The results of the event study imply that non-promoter investors on an average view a pledge event as a negative signal. It also implies that the non-promoter investors are cognizant of the potential risks that pledging by family promoters induces on the firm. It is interesting to note that conversely pledge-release announcements are not accompanied by positive reactions. This may be due to the sentiment that the promoter may re-pledge the shares for additional loans.

To measure the longer-term relationship between share pledging and firm value, we run an OLS Model with the firm's Tobin's Q as the primary dependent variable (**Exhibit 6**). We find that pledging is associated negatively with the firm's Tobin's Q across all categories of firms in our sample. Interestingly, the negative relationship between pledging and Tobin's Q significantly strengthens when we include a dummy variable for firms with excessive promoter pledging (that is, promoter pledging >75 percent)[4] implying that higher the per cent of pledged shares, greater is the negative impact on firm value.

Exhibit 6: Pledging and Firm Value

	Dependent Variable: Tobin's Q					
Variables	All firms		Family firms		Non-Family firms	
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Promoter Pledge (%)	-0.033***		-0.032***		-0.083*	
	(0.000)		(0.000)		(0.017)	
Promoter Pledge Dummy (>75%)		-1.940***		-1.816***		-6.706*
		(0.000)		(0.000)		(0.012)
Controls	Yes (with firm and year fixed effects)					
Observations	10,446	10,446	9,438	9,438	1,008	1,008
Adjusted R^2	0.165	0.162	0.168	0.165	0.165	0.163

	Standalone Family firms		Family Business Group firms	
	Model 7	**Model 8**	**Model 9**	**Model 10**
Promoter Pledge (%)	-0.031***		-0.034***	
	(0.000)		(0.000)	
Promoter Pledge Dummy (>75%)		-1.729**		-1.936**
		(0.002)		(0.003)
Controls	Yes (with firm and year fixed effects)			
Observations	4,011	4,011	5,427	5,427
Adjusted R^2	0.182	0.180	0.161	0.159

****significant at 0.001 level; **significant at 0.01 level; *significant at 0.1 level*

While the negative relationship between pledging holds across family firms (both FBGF and SFF firms), when we examine the consequence of pledging on the firm's Tobin's Q there is no discernible difference between FBGFs and SFFs. This is in line with the short-term investor reaction to pledging, which also did not differ across these two categories of firms. We also find that pledging is strongly related with loss of firm value among non-family firms in the long-term.

[4] Our results do not change when we compute this variable at 60, 70 and 80 percent levels.

You may recall that the short-term investor reaction to share pledging for non-family firms was found to be insignificant. However, it is not surprising that in the long-term, Tobin's Q, a market-based performance measure, was found to be significantly negative, even for non-family firms.

6. EQUITY RISK AND RISK-AVERSION

The reasons behind the decline in firm value found above need to be investigated further. Dou et. al (2019) outlined two primary reasons for this decline – higher crash risk and an increase in insider risk-aversion. We attempt to determine if these two reasons hold in the Indian context too.

Firstly, to measure the impact of pledging on the firm's crash risk, we utilize three measures suggested by Dou et. al. (2019) – Value at Risk, Expected Shortfall, and Tail Risk. The variables are measured for the year following the pledge (that is, t+1). We find that pledging is consistently linked with a higher crash risk in the year following the pledge by the primary shareholder for all family firms, with there being only slight differences among the coefficients for SFF and FBGF firms (**Exhibit 7**). The results are in line with our expectations. We had previously highlighted the nature of margin calls and the cascading negative impact that forced sale of shares is likely to have on the firm's equity risk. We find evidence of a higher equity risk in our sample of family firms. We do not find evidence of higher equity risk among non-family firms in our sample.

Exhibit 7: Pledging and Firm Crash Risk [t+1]

	All firms		
Dependent Variables (t+1)	*VAR*	*Exp. Short.*	*Tail Risk*
Variables	Model 1	Model 2	Model 3
Promoter Pledge (%)	0.085***	0.126***	0.157***
	(0.000)	(0.000)	(0.001)
Controls	Yes (with firm and year fixed effects)		
Observations	10,263	10,263	10,263
Adjusted R^2	0.0938	0.0445	0.0498

	Family firms			Non-Family firms		
Dependent Variables (t+1)	*VAR*	*Exp. Short.*	*Tail Risk*	*VAR*	*Exp. Short.*	*Tail Risk*
	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Promoter Pledge (%)	0.084***	0.127***	0.163***	0.127	0.118	0.032
	(0.000)	(0.000)	(0.001)	(0.163)	(0.425)	(0.871)
Controls	Yes (with firm and year fixed effects)					
Observations	9,272	9,272	9,272	991	991	991
Adjusted R^2	0.0934	0.0424	0.0485	0.116	0.0863	0.0941

	Standalone Family firms			Family Business Group firms		

Dependent Variables (t+1)	*VAR*	*Exp. Short.*	*Tail Risk*	*VAR*	*Exp. Short.*	*Tail Risk*
	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
Promoter Pledge (%)	0.085**	0.146**	0.179**	0.084***	0.121**	0.167*
	(0.006)	(0.004)	(0.007)	(0.000)	(0.004)	(0.011)
Controls	Yes (with firm and year fixed effects)					
Observations	3,893	3,893	3,893	5,379	5,379	5,379
Adjusted R^2	0.0858	0.0559	0.0693	0.110	0.0382	0.0434

****significant at 0.001 level; **significant at 0.01 level; *significant at 0.1 level*

Secondly, we investigate the impact of pledging on insider risk-aversion (**Exhibit 8**). Since pledging puts the shareholding of a promoter under considerable risk, they may be motivated to attempt to reduce the potential variability in the stock price of the firm. Thus, promoters may attempt to stifle the firm's risk-taking behavior (such as long-term investments and investment in R&D) to ensure that short-term negative returns do not lead to potential margin calls. This behavior is more likely to occur when the funds obtained from pledging shares are diverted to an investment destination outside the firm whose shares are being pledged.

Exhibit 8: Pledging and Firm Risk-taking

	All firms		
Dependent Variables (t+1)	*R&D*	*Capex*	*Assets*
Variables	Model 1	Model 2	Model 3
Promoter Pledge (%)	-0.014*	-0.018***	-0.052***
	(0.055)	(0.001)	(0.000)
Controls	Yes (with firm and year fixed effects)		
Observations	9,383	9,136	9,383
Adjusted R^2	0.00644	0.133	0.186

	Family firms			**Non-Family firms**		
Dependent Variables (t+1)	*R&D*	*Capex*	*Assets*	*R&D*	*Capex*	*Assets*
	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Promoter Pledge (%)	-0.014*	-0.020***	-0.052***	-0.009	0.053	0.004
	(0.056)	(0.000)	(0.000)	(0.420)	(0.162)	(0.968)
Controls	Yes (with firm and year fixed effects)					
Observations	8,492	8,268	8,492	891	868	891
Adjusted R^2	0.00663	0.138	0.187	0.0147	0.108	0.181

	Standalone Family firms			**Family Business Group firms**		
Dependent Variables (t+1)	*R&D*	*Capex*	*Assets*	*R&D*	*Capex*	*Assets*
	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
Promoter Pledge (%)	0.005	-0.019*	-0.037	-0.025*	-0.020***	-0.061***
	(0.132)	(0.063)	(0.104)	(0.032)	(0.000)	(0.001)
Controls	Yes (with firm and year fixed effects)					
Observations	3,584	3,443	3,584	4,908	4,825	4,908
Adjusted R^2	0.00960	0.142	0.210	0.0108	0.134	0.166

****significant at 0.001 level; **significant at 0.01 level; *significant at 0.1 level*

Based on the data from our sample, we document a negative relationship between promoter pledging and the firm's R&D and investment intensity among family firms, with the detrimental impact of pledging being slightly more emphasized among FBGFs compared to SFFs. We also find that firms where promoters have pledged shares face a lower growth in their total assets. We don't find evidence of this insider risk-aversion among non-family firms.

Evidence of higher crash risk and an increase in insider risk-aversion, as found in the analysis above, raise significant concerns around the family firm's corporate governance mechanisms. Potential underinvestment in assets (capital expenditure) and R&D could imply that the firm's long-term competitive advantage may wither away due to pledging, leading to concerns around survivability as well. As an additional analysis, we test whether lower firm risk-taking also translates into poorer firm performance following the pledge by the promoter due to underinvestment and risk-averse decision-making. To measure the relationship between firm performance (measured through ROA) and promoter pledging, we run a model specification outlined in **Exhibit 9**. As expected, we find a negative relationship between firm performance and pledging among family firms in our sample. However, the relationship is insignificant for non-family firms.

Exhibit 9: Pledging and Firm Performance

Dependent Variable: Return on Assets [t+1]						
	All firms		Family firms		Non-Family firms	
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Promoter Pledge (%)	-0.018**		-0.019**		-0.008	
	(0.009)		(0.009)		(0.754)	
Promoter Pledge Dummy (>75%)		-2.058**		-2.034**		-2.150
		(0.004)		(0.006)		(0.220)
Controls	Yes (with firm and year fixed effects)					
Observations	9,375	9,375	8,484	8,484	891	891
Adjusted R^2	0.119	0.120	0.121	0.122	0.140	0.141

	Standalone Family firms		Family Business Group firms	
Variables	**Model 7**	**Model 8**	**Model 9**	**Model 10**
Promoter Pledge (%)	-0.024*		-0.013	
	(0.053)		(0.111)	
Promoter Pledge Dummy (>75%)		-2.215*		-1.763*
		(0.064)		(0.051)
Controls	Yes (with firm and year fixed effects)			
Observations	3,580	3,580	4,904	4,904
Adjusted R^2	0.140	0.140	0.111	0.112

****significant at 0.001 level; **significant at 0.01 level; *significant at 0.1 level*

7. SHARE PLEDGING AND LOSS OF CONTROL

Pledging puts the shareholding of the pledging shareholder under considerable risk. An unexpected negative event could potentially reduce the stock price of the firm to an extent that a margin call is triggered. This may lead to the possibility of a forced sale of shares by financial institutions along with a stock price slump. Such situations could lead to a stock rout, leading to margin calls, implying loss of majority/controlling ownership for the promoters, if they are not able to meet the margin calls.

The events that lead to such stock routs may be completely extrinsic to the firm. For example, during the Covid-19 pandemic, the benchmark indices fell more than 35 percent in a month. The impact of Covid-19 pandemic on pledged shares was significant. The value of pledged shares declined from ₹1.78 trillion on 31 December 2019 to ₹1.27 trillion on 20 March 2020[5]. Listed entities across several sectors such as Future Retail and SpiceJet (Aviation) were projected to be impacted by downgraded ratings and pressures to provide additional collaterals. With some of these firms being highly leveraged, it was predicted that strategic debt restructuring, or sale of stake would be the only way out for these promoters.

We attempt to gauge the potential impact of pledging on control, in terms of shareholding, if the pledged shares of the promoters were to be invoked in entirety, as has happened in various cases in India Inc. **Exhibit 10a** showcases the shareholding of the promoters in firms where the promoters have pledged their shares. The promoter shareholding for a majority of the firms lies above the 50 percent mark. This implies an ability to exert considerable control over the firm and lend a clear strategic direction as a majority shareholder.

Exhibit 10b, showcases the promoter holding of the same companies, as in Exhibit 10a, that is not pledged to a financial institution. We show the proportion of the firm that the promoter would continue to own if the promoter were to lose the part of their shareholding that they had pledged. The results indicate a gloomy story. We find that most companies with pledged shares are at the risk of losing the ability of their promoters to exert control on the firm. Only a few firms lie above the 50 percent mark in terms of the unpledged shareholding of the promoter group. This may be detrimental to the firm’s prospects, especially if the promoter has some specialized skill or

[5] Report can be retrieved from: https://www.livemint.com/market/stock-market-news/decline-in-pledged-shares-sends-promoters-running-for-cover-11584900054974.html

knowledge that is not easily transferable or replicated, which is often the case in family owned and managed firms.

Exhibit 10a: Promoter Shareholding in Pledged family firms (2020)

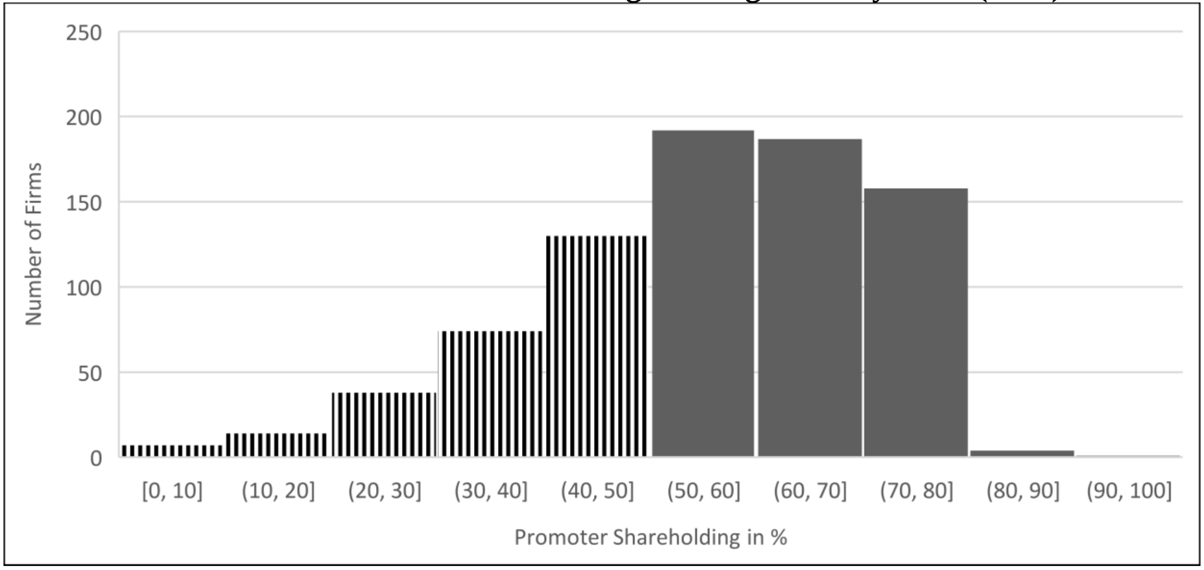
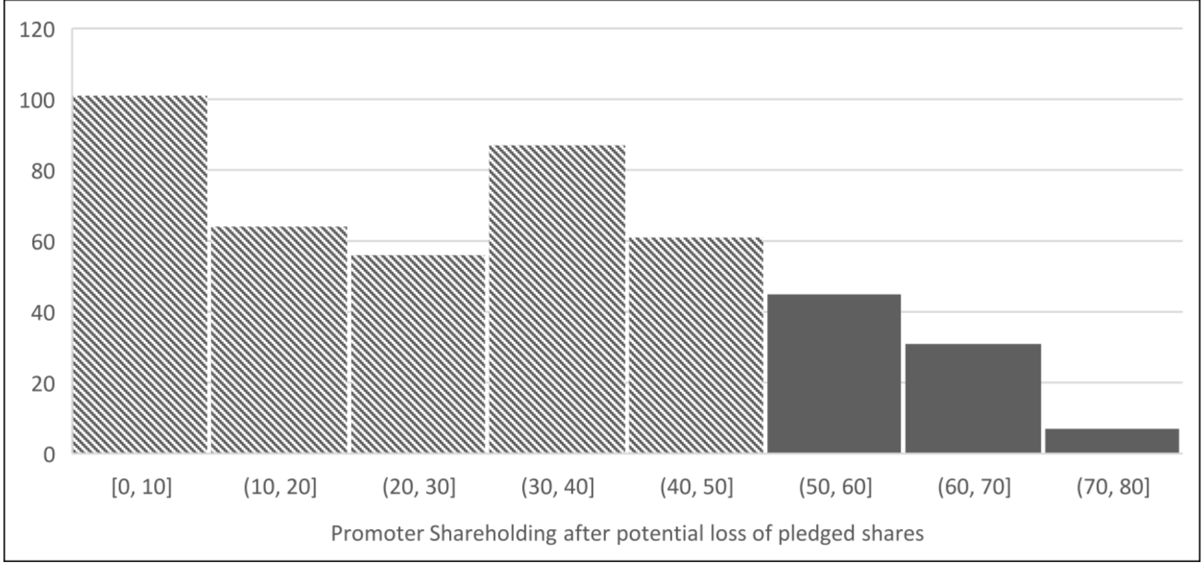


Exhibit 10b: Promoter Shareholding after potential loss of pledged shares (2020)

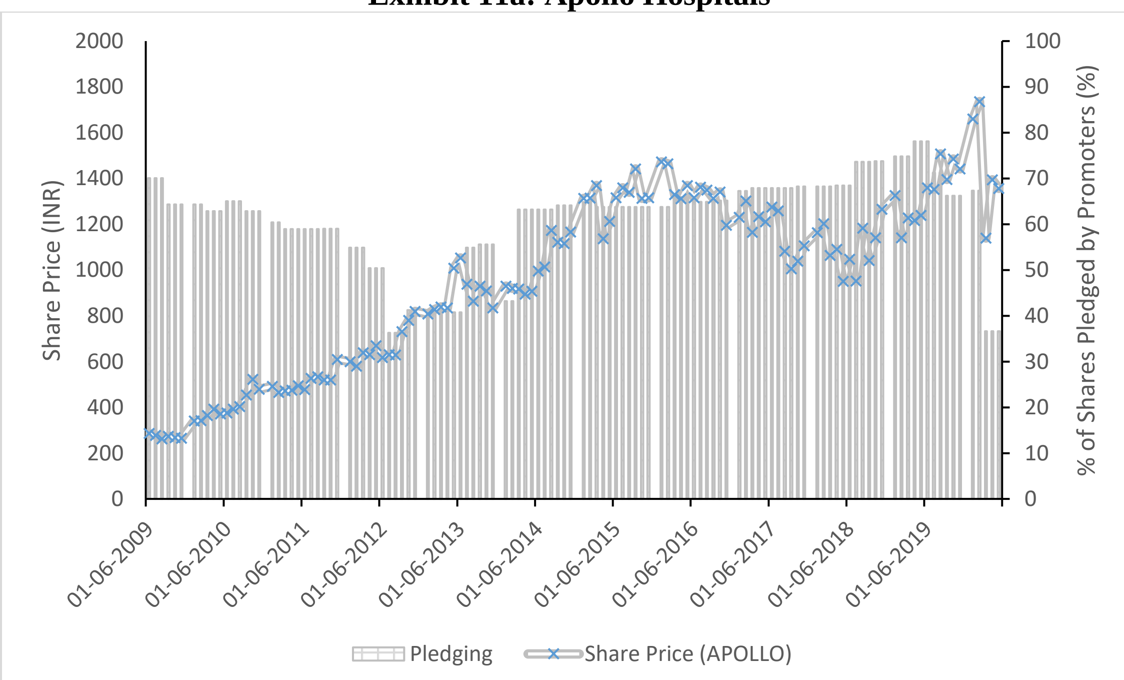


8. PLEDGING AS A BENEFICIAL TOOL FOR PROMOTERS

Most of the extant literature and prior analyses on share pledging ha treated the shareholder's motivation behind pledging to be singular, that is, personal wealth diversification. This is in part due to the focus of literature on firms in countries where diversified ownership is common. In this context, directors and executives often pledge (and hedge) their shareholding in the firm to diversify their personal wealth. We find, however, that several promoters of family-owned Indian firms have utilized pledging to finance entrepreneurial projects across listed companies and new ventures, especially when credit availability is dire. Pledging enables family owners to borrow money due to the sheer size of their shareholdings in their firms. Often, even with asset cover requirements of two or three, promoters may be able to borrow up to 25 percent of the total market capitalization of the firm by pledging their shares.

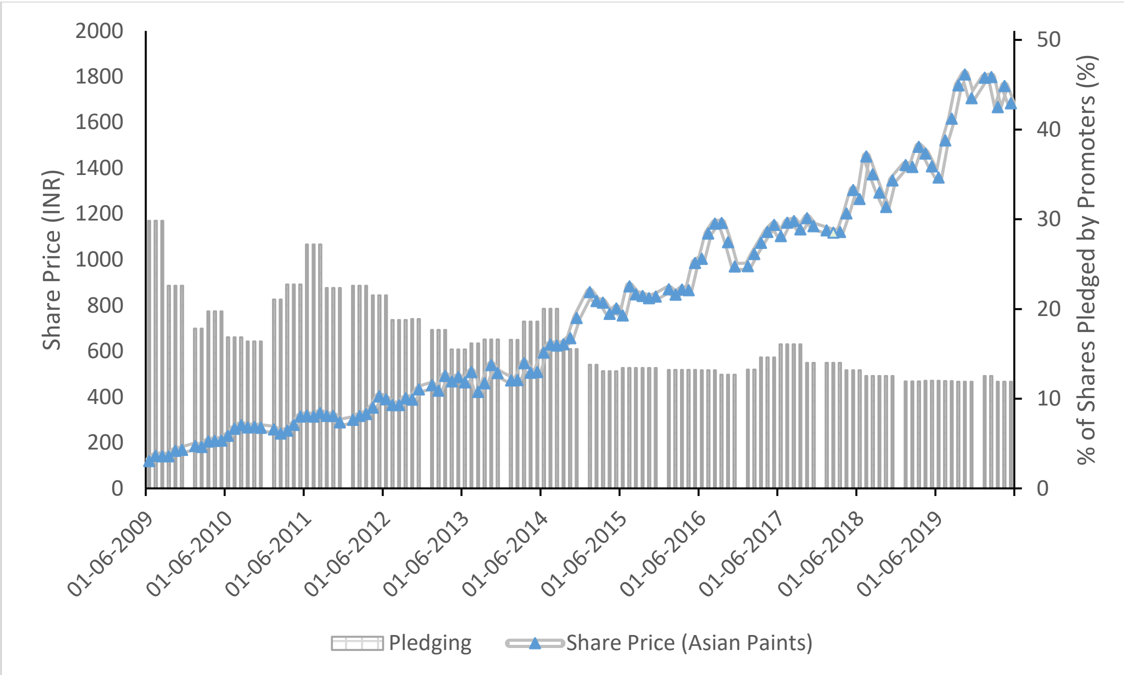
When pledging for business loans is done under contingency planning and there is clear confidence on the promoter's part that the strategic projects may lend a future positive NPV to the firm, pledging may be beneficial for the promoter without causing undue negative consequences for the firm. We highlight this with two examples – Apollo Hospitals (**Exhibit 11a**) and Asian Paints (**Exhibit 11b**). The promoters of Apollo Hospitals had pledged their shares for financial capital that would enable the firm to undertake strategic investments in the core business segment of the firm during a credit crunch. Consequently, the share price of Apollo rose considerably between 2014 and 2020 due to the firm benefitting from these strategic investments. The promoter pledge significantly reduced in 2020.

Exhibit 11a: Apollo Hospitals



Another example of pledging creating value for the promoters as also for other shareholders is that of Asian Paints. The promoters of Asian Paints had pledged their shares prior to 2010 to increase their holding in the company (i.e., buying back shares from the market)[6]. The share price of Asian Paints has consistently increased over the past decade due to strong growth and robust underlying financials. While the stock price has steadily grown without any significant downturns, the promoter pledge has also been coming down.

Exhibit 11b: Asian Paints



9. FINDINGS, IMPLICATIONS AND CONCLUSIONS

In this study, we have attempted to ascertain the consequences of share pledging by promoters of different category of firms (family, non-family and SFFs and FBGFs) in the Indian context. We utilized data for all firms listed on the NSE between 2009 and 2019. While the results of our study primarily hold for family firms, some of these implications may apply to non-family firms as well. We discuss our primary findings, their implications and conclusions below.

Findings

Margin calls and threat of price declines: In the event of declining share price, the lender would make a margin call to the promoter who pledged shares. Though the promoter may not possess liquid cash to bring the value of the loan down to re-balance the loan's margin and asset cover.

[6] Source: https://timesofindia.indiatimes.com/business/india-business/asian-paints-promoters-pledged-shares/articleshow/4049280.cms

Financial institutions, as a result, are likely to sell the shares in the market if margin call is unmet. ***Sale of shares in bulk may further exacerbate the price decline, leading to even more shares being sold. This increases the firm's equity risk, that is the risk of value of the equity declining.***

<u>Reduction in Investment Intensity</u>: Post the share pledge, the threat of the share price decline and subsequent margin calls continue to linger for the promoter and the firm. As such, there may be a strong motivation for the promoter to reduce the firm's investment in innovation (R&D) and capital expenditure since they may cause short-term variability in performance and the firm's stock price. ***Promoters are likely to become risk-averse due to the threat of margin calls. In the long-term, this risk-aversion is likely to lead to poorer firm performance and may even threaten the chances of firm survival.***

<u>Decline in Firm Value and Governance Implications</u>: As a consequence of lower risk-taking and higher crash risk, investors generally react negatively to the news of a share pledge. Firm value may decline in the short-term and the decline is likely to sustain (or even worsen) in the long term. This situation creates a serious problem from a governance perspective. The primary shareholder (promoter) who pledges the shares benefits from the pledge in the form of a loan. ***For a minority shareholder of the firm pledging may lead to decline in wealth, higher riskiness of their investments, and no associated upsides when the pledging funds are diverted to outside the firm.***

<u>The threat of loss of control</u>: Several examples exist in the Indian context, such as Subhash Chandra (Zee) and Anil Ambani (Reliance), where family promoters lost ownership and control of their firms owing to excessive pledging. Our analysis of the state of pledging among Indian promoters leads to the conclusion that several listed firms face a similar threat in the event of an unexpected share price decline. ***Investors perceive the firm to be closely associated with the family promoter, and loss of ownership and control raises doubts among investors about the future of the firm itself.***

<u>Pledging is not always harmful</u>: Due to the instances of loss of control and governance scandals associated with pledging, it is not surprising that the phenomenon is perceived negatively. However, we find that when used strategically, pledging may not lead to the severe governance implications outlined by us previously. ***In times of a credit crunch, firms may find promoter pledging to be an effective, cheap, and quick way to finance projects and investments.*** Apollo Hospitals, Granules India, and Asian Paints are some of the examples of firms where promoter

pledging ended up being beneficial to the promoters and/or to the firm. Governance interventions and provisions may prevent shareholders from over-pledging their shares.

Implications

Based on our findings in the study, we describe the implications arising out of this study for the primary stakeholders associated with pledged shares in the market – controlling shareholders, minority shareholders, the firm's board of directors, and the regulators. We also include the family in this list as an important stakeholder as, for the family firms, pledging of shares has significant long term implications for family wealth and reputation.

Controlling Shareholders: It is key for controlling shareholders to understand that pledging to raise funds for motives such as diversification of personal wealth or setting up new entrepreneurial ventures puts the firm whose shares are being pledged at considerable risk. Unexpected downturns due to reasons that may be either internal or external to the firm would lead to loss of ownership in the firm. Hence, ***over-optimistic investment plans and over-pledging shares without pre-planned repayment strategies are likely to lead to a crisis later*.**

Minority shareholders: Our analysis implies that it is necessary for a minority shareholder to further attempt to understand the motivations of the controlling shareholder behind pledging before concluding that pledging is all bad for the firm. If the controlling shareholder has pledged to take advantage of a strategic opportunity for the firm itself, it may be beneficial to hold on to the stock and monitor its performance closely. However, when done under distress for firm loans, pledging may reveal significant negative information about the current financials of the firm and present an ominous picture of the future of the company. If pledging of shares has been done for any other reason such as repaying the controlling shareholder's personal loans or diverting money to an alternative destination, the firm stands to be under higher risk and poses serious corporate governance challenges for the firm. ***Investors must keep a track of their portfolio and regularly evaluate if the controlling shareholders of the firms in which they have invested have pledged their shares.*** In case they find that they are invested in such a firm, they should continually monitor the quantum of shares pledged. If the risks arising from holding stock ownership of these firms outweigh the benefits, it may be a good idea to let go of their holding in the firm. Large institutional investors may also go a step further and monitor the share pledges of family promoters in other group companies. It may provide indications about the financial health of the overall group.

Board of Directors: The firm would benefit by empowering the Board of directors to check the level of pledging by controlling shareholders and insiders in the firm and advise against it if deemed harmful to the financial health of and rationale decision-making at the firm. ***Board of directors of firms must caution controlling shareholders from over pledging*** their stakes and should shield the firm from such shareholders if they try to manage the margin calls by taking hasty or short-term view decisions in the firm.

Regulators: ***The corporate governance implications of pledging in our study should help regulators in better decision making as well.*** There is merit in exploration of regulations and directives that reduce the incidence of "*Rubber-Stamp Boards*", that is, boards which fail to monitor the promoters and take decisions under the influence of the promoter itself. The RBI must direct financial institutions to evaluate the detailed plan associated with the investment of proceeds obtained by pledging and construct the pledging loan contract (such as interest of the loan and the equity cover required to be obtained) in accordance. SEBI's decision to mandate disclosures of reasons for share pledges in highly pledged companies was an excellent move, as evidenced by our findings in this study. Moving forward, the regulator may choose to introduce newer regulations that discourage pledging for personal utility. Further, RBI and SEBI should talk more to each other as their regulations on pledging of shares is complimentary at the moment.

Family: Pledging of shares, coupled with bad decision-making and/or over ambitious growth plans, resulted in complete destruction of family wealth in many family firms. In few cases, passive family members, those who were not involved in the business and its affairs, may not even be aware of the consequences of pledging. ***There is need to create awareness and build stronger family governance processes that would put checks and balances with regards to excessive pledging.***

Conclusion

This study highlights the prevalence of share pledging in the Indian context and the possible implications that pledging may present for stakeholders, especially in family firms. Our study finds a decline in firm value, higher crash risk and underinvestment in innovation by firms where promoters of family firms pledge their shares. However, we also show how some firms have utilized share pledging by family promoters as a tool to raise capital for strategic projects and create value for the stakeholders.

The various scandals, loss of control of the firm by family promoters, regulatory responses and warnings led to the common perception that all share pledges by promoters are bad. Existing empirical research around pledging of shares has also failed to account for the heterogeneity among the possible use-cases of capital obtained from pledging of shares.

We raise calls for investors, regulators, and the family to closely evaluate the phenomenon of pledging due to its significant impact on the firm's value and governance mechanisms. The lack of commensurate institutional provisions to prevent minority shareholder expropriation may worsen agency conflicts between the promoter and the minority shareholder among several Indian firms in the event of pledging. Given its far-reaching consequences, it is important to take cognizance of this phenomenon. We provide a clarion call for acknowledging that it is an important tool to access financial capital for family promoters. It acts as an important resource to promote entrepreneurial financing amongst family businesses and as a source of fund to turnaround the family firm if it is in trouble.

Future studies on share pledging by family promoters must closely evaluate the risks, rewards and motivations of the promoters when pledging their shares. The studies should also discriminate between the end use of funds rather than assuming that all share pledges are essentially bad. Along with large sample data driven research, there is a need for case study based research on pledging in order to understand the nuanced variations in promoter choices and causes and consequences of the same. More war-room stories of pledges gone wrong as well as pledging as an important component of a successful entrepreneurial financial strategy are needed. Such case-based accumulated evidences can provide valuable inputs on why family businesses choose this as a source of alternative finance, how to manage and govern pledging more effectively both by promoters and the board and how to frame more balanced regulations that will reduce the overall systemic risk with proper safeguards and help create a more efficient market for pledging.

10. REFERENCES

Bagchi, Amiya. 1967. Concentration of Economic Power in India. *Economic and Political Weekly* 2 (33/35): 1613-1615, 1617-1618.

Bang, N. P., S. Ray, & K. Ramachandran. 2017. Family Businesses: The Emerging Landscape 1990-2015. *Thomas Schmidheiny Centre for Family Enterprise*, Indian School of Business.

Bang, N. P., Ray, S., Ramachandran, K., & Vishwanathan, A. 2018. Family Businesses: Promoters' Skin in the Game 2001-2017. *Thomas Schmidheiny Centre for Family Enterprise*, Indian School of Business.

Dou, Y., Masulis, R. W., & Zein, J. 2019. Shareholder Wealth Consequences of Insider Pledging of Company. *The Review of Financial Studies*, 32(12), 4810 - 4854.

Granovetter, M. 2005. Business Groups and Social Organization. In N. J. Smelser, & R. Swedberg, *The Handbook of Economic Sociology* (pp. 429-450). New York, Princeton and Oxford: Princeton University Press and Russell Sage Foundation.

ISS ESG. June, 2021. Governance Quality Score, *Institutional Shareholder Services*, p199 https://www.issgovernance.com/file/products/qualityscore-techdoc.pdf

Machek, O., Kolouchová, D., & Hnilica, J. 2015. Identifying Family Businesses: The Surname Matching Approach. *Recent Advances in Environmental and Earth Sciences and Economics* 96-100.

Markusen, J. R. 1995. The Boundaries of Multinational Enterprises and the Theory of International Trade. *The Journal of Economic Perspectives*, 9(2), 169-189.

RBI. June, 2019. Financial Stability Report, Financial Stability Unit, *Reserve Bank of India*, Mumbai, India, Issue No. 19, p111. https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FSRJUNE2019E5ECDDAD7E514756AFEF1E71CB2ADA2B.PDF

Appendix 1: Identification of Family Firms

In the literature, family businesses are generally classified on the basis of ownership, management and succession or business continuity. In the family business literature, 79 percent of the studies used ownership, 53 percent used management control, 28 percent used directorship, 15 percent used self-identification, 9 percent used multiple generations and 7 percent used intra-family succession intention, as the criteria to define a family firm (Machek, Kolouchová, & Hnilica, 2015).

The Thomas Schmidheiny Centre for Family enterprise, Indian School of Business, identifies a firm as family firm if the first condition of significant ownership is met and any one of the other two conditions are met:

a. An equity ownership above 20 percent by family members or family-controlled firms as on date (March 31, 2020) or the last shareholding data available. The cutoff of 20 percent was deemed to be appropriate as it has been found that individuals/families are able to control companies with much lower shareholdings due to large number of other shareholders that are widely scattered or financial institutions as shareholders that are not interested in the management of the company (Bagchi 1967) [7].

b. Family member as chairman of the board, or two or more family members[8] in the board of the firm. Once it was established that a Family has more than 20 percent shareholding in a company, it was determined if the family also exerts management control on the company. Wherever the Chairman of the Board, the Chief Executive Officer (CEO), the Managing Director, or a person in the board of directors was also a promoter and member of the family holding more than 20 percent stake in the company, that company was considered to be a Family Business.

   In cases where the information about the Board of Directors was not available or it was difficult to determine whether the individual is a family member or not, the Annual Report of the

[7] No significant changes were observed when the ownership cutoff was relaxed to 15 percent or increased to 25 percent.
[8] Family members were many times identified using the ‘surname’ matching approach when any conclusive evidence of relationship was not available. See (Machek, Kolouchová and Hnilica 2015) for a primer on the approach.

company and the website, especially the History section and the Team/ Management/ Leadership sections, was explored to gain clarity.

c. Multiple generations or multiple members of same generation actively involved in business. If a classification could not be arrived at through conditions (a) and (b), then the website of the company, along with search on the internet to get more information about the company was explored. But if there was ambiguity in step (b), as there were companies where a family owned more than 20 percent shares, but the company was managed by a non-family CEO or Managing Director, in such cases, whether the stake of the company was being passed on from one generation to the other and the members of the family were involved in the company as owners, even if it was not in a leadership role, was checked for.

The above criteria have been primarily used to classify companies into Family and Non-Family businesses.

Appendix 2: Ownership classifications

Businesses in India are characterized by many differing ownership structures. Prior literature on BGs does not distinguish between family and non-family business groups. Similarly, the prior literature on family businesses either focus on business groups or family firms irrespective of whether they are a part of a group or not. BG affiliated firms are usually bound together by various multiple ties such as common ownership, directors, products, financial, or interpersonal ties. Moreover, there is typically a core entity or dominant coalition, offering common administrative or financial control, or managerial coordination among the member firms (Granovetter, 2005). We believe that the family firms that are not affiliated to any business group will behave differently than the group affiliated ones.

SOEs or public sector undertakings as they are commonly referred to in India, are legal entities that are created by the government in order to partake in commercial activities on the government's behalf. It can be either wholly or partially owned by a government and is typically earmarked to participate in commercial activities. Examples include Indian Oil, NTPC, ONGC and Coal India.

MNCs are firms that have entered India through foreign direct investment. These firms make investments through which they acquire a substantial controlling interest in a domestic firm or set up a subsidiary in a foreign country (Markusen, 1995). Examples include Nestle, Cadbury and Microsoft.

Other Business group affiliated firms (OBGFs)- One key characteristic of Business Groups in the literature is 'kinship' amongst top management. Business groups affiliated family businesses are therefore BGs in the true sense and have been classified as Family Business group firms (FBGFs) in this study. The other firms that meet the criteria of business group affiliated firms to a large extent but the top management in the various affiliated firms are not related in any way have the 'kinship' that a family has missing. They are hence classified separately as OBGFs. Examples are the ICICI Group, IVRCL Group, Larsen and Toubro Group, among others.

BG affiliated firms which were SOEs or MNCs were classified under SOEs and MNCs, not under OBGFs. For example, the companies under the State Bank of India group would be a part of SOEs.

Standalone non-family firms (NFFs) form the remaining set of firms in the dataset. These firms are usually characterized by distributed ownership and a high degree of professionalization. Examples include Infosys, ITC and Global Trust Bank Ltd.

SFFs are family firms that are not part of a business group.

In this study, we have not delved into the sub-classification of non-family firms as pledging in non-family firms is limited.

ABOUT THE INDIAN SCHOOL OF BUSINESS

The Indian School of Business (ISB) is a global business school offering world class management education to professionals at its two LEED rated green building campuses – Hyderabad and Mohali. A rich and vibrant pool of research-oriented resident faculty, robust academic partnerships, thriving alumni network, and backing of an influential board and guidance of industry's thought leadership has enabled ISB to fast emerge and consolidate itself as a premier global business school in the emerging markets. The school is also one of the largest providers of executive education in Asia and the most research-productive Indian management institution.

For more Information, please visit https://www.isb.edu/en/about-isb.html

ISB | Thomas Schmidheiny Centre for Family Enterprise

ABOUT THE CENTRE

The Thomas Schmidheiny Centre for Family Enterprise brings together faculty and practitioners from India and abroad with the broad aim of combining theory and practice to enhance research and innovation in the field.

Family businesses make a major contribution towards wealth creation, job generation, and increasing competitiveness in countries around the world. As such, the unique challenges and opportunities faced by them are rapidly becoming an important subject of management research.

The Centre has been generously funded with support from Thomas Schmidheiny, Founder and Chairman of Spectrum Value Management, Ltd, Switzerland.

For more details visit www.isb.edu/fambiz

Family Business Briefs
http://newsletters.isb.edu/FamilyBusiness-Newsletter/

Family Business Blog
http://blogs.isb.edu/centre-for-family-enterprise/

Contact: fambiz@isb.edu
Sushma: +91 40 2318 7189

Registered Office & Hyderabad Campus:
Gachibowli, Hyderabad - 500 111, Telangana, India.
Ph: +91 40 2300 7000, Fax: +91 40 2300 7099
Mohali Campus: Knowledge City, Sector 81, SAS Nagar
Mohali - 140 306, Punjab, India. Ph: +91 172 459 0000
www.isb.edu
Corporate Identity Number: U80100TG1997NPL036631