

# An Impact of Default Risk and Promoters' Holding on the Dividend Policy in the Firms in India: Evidence using Panel Data

Venkata Mrudula Bhimavarapu, Jagjeevan Kanoujiya, Shailesh Rastogi



**Abstract:** Dividends, as a policy is still a matter of debate. This situation is due to both, lack of consensus in the literature and self-evolution of corporate finance worldwide. Therefore, this study is an attempt to provide insights of the contemporary dividend policy and its driving forces. We collect the panel data from 78 non-financial Indian firms from BSE-100 (BSE-100 is a leading index of Indian companies by Bombay Stock Exchange) from 2015-2019. We decide to test how dividends are driven by default risk, ownership concentration (OC) and profitability of the firms. Profitability is used as moderator to the association of default risk with the dividends. We get startling evidence that OC and profitability do not influence the dividends policy in the firms in India. Default risk negatively impacts the dividends. However, the absolute value of the coefficient is too small and hence can be ignored. Furthermore, we find evidence that dividends are consistent despite the situation of profitability and OC. This finding is one of the main contributions of the study. We recommend to have differential voting rights (DVR) shares to cater to varying aspirations of different investors. Empirical evidence of findings of the study would be an eye-opener to the managers, which is one of the major implications of the current study. Additionally, change of the policies on the DVR shares is another major implication of the study.

**Keywords:** Dividends; Ownership Concentration; Profitability; Panel Data; DVR's

## I. INTRODUCTION

Dividend policy is an evergreen issue, and despite voluminous literature, there is unanimity on this [3]. The perplexing dividend policy differs in developed economies compared to emerging economies [4]. Nevertheless, the paramount concern of lack of unanimity and consistency in the policy regarding dividends remains unattended. One set of studies may highlight maturity and have a residual dividend policy [7].

However, evidence of consistency with the past dividend repudiates the unanimity in the dividend distribution policy across the board [8]. Literature finds risk, especially leverage ratio, an essential determinant of the dividend distribution policy [4],[38],[39]. The concerns regarding risk gain more traction due to the uncertainties like Covid 19 [22]. This situation is germane to explore how risks impact the dividend policy. Risk is technically not part of significant dividend distribution policies across the world despite this being one of the determinants of the dividend distribution policy [15],[32]. We find a lack of literature on how to link risk in theorizing the dividend policy. As part of dividend policy, risk can be seen from different perspectives. Risk can be due to financial leverage, business risk or systemic risks. However, among the three, the current research would focus on financial leverage. Undoubtedly, financial leverage impacts firms performance [27],[28] and the valuation of the firms [18]. Hence, it is relevant to explore the association of financial leverage regarding dividend policy as a preference. It is significant to have literature supporting promoters stake as the determinant of the firm's performance. In this, we would like to study risk (financial leverage) and promoters' stake and its impact on the firm's dividend policy. Moreover, both leverage and promoters' stake interact with the firm's profitability while taking the dividend decisions. The complexities raised in the dividend policy and risk (along with promoters' stake and profitability) make it relevant to explore a fresh set of evidence on the association of dividend policy with the leverage in the firms. Corporate firms are inherently opaque [14], [19],[29],[34] and, therefore, how the dividend policies are shaped in a firm [54],[17] needs the different perspective viz-a-viz risk and promoters' stake. However, the non-financial firms are not opaque by design. Their tendency to hide and not reveal adequately is also natural [11],[12]. Thus, the following are the study's objectives: 1) to determine the impact of risk and promoters' stake in determining the dividend policy in a firm; and 2) to examine the interaction of the profitability with risk in deciding the dividend policy in a firm. The world has changed significantly due to Covid 19, and the uncertainty still prevails [5]. Such kind of uncertainty is the primary motivation to explore the association of risk on the firms' dividend policy, especially interaction of the profitability with the risk and its influence on the dividend policy of the firms. The current study makes two startling revelations about the dividend policy.

Manuscript received on January 09, 2022.

Revised Manuscript received on January 27, 2022.

Manuscript published on February 28, 2022.

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First, it is noted in the analysis that risk proxied by ICR is significant although negatively impacting the dividend policy even not interacting with the profitability in the firms. The former finds the evidence [1], [38] and as per the logic. Whereas the latter findings are the unique contribution of the study, which contradicts the usual dividend theory of the firms [7],[8], believes dividends to change according to the profitability. However, surprisingly it is also reported that dividends are sticky, which has voluminous evidence in the literature [23],[24]. The two findings allude that Indian firms follow a policy of consistent dividends until their risk is manageable. Moreover, such a deduction finds no place for the firms' profitability. These are the study's unique contribution, which is not observed in the literature. The findings have reasonable implications for the investors in India. Those investors who want consistent dividends should look forward to investing in Indian firms provided they have comfortable capital structure situations so that firms do not face the stress of excess debt, which is not consonant with the earnings. Only profitability may mislead the investors, whereas long-term liquidity in terms of high interest coverage ratio can dictate dividend distribution policy.

The rest of the paper is divided into six sections starting with the introduction. The second section deals with relevant literature and hypotheses formulation. The third section presents the research design, sample firm and data followed by detailed methodology applied in the study to serve the paper's objective. The results are reported in the fourth section, followed by a discussion on the reported results in the fifth section. The study is concluded in the sixth section.

## **II. THEORETICAL BACKGROUND, LITERATURE REVIEW, AND HYPOTHESES**

### **A. Default Risk and dividend policy**

Dividends, as a policy, depends upon the investment requirements of the firms. A risk, especially default, should not be a determinant of the dividend policy. Despite this fact, [38] evince ICR (interest coverage ratio) as one of the determinants of dividends in India. Other studies also find the same issue of having risk attached to dividend policy [6],[10]. Another set of studies exhibits no association of default risk with the dividend policy [15],[32]. The ambiguity and lack of evidence make it apt to look forward to a fresh set of evidence.

The risk may be there due to stock markets, which can impact the dividend policy [31],[41], [49]. Risk can also be due to market in-efficiency, adversely affecting the dividends policy [35],[36],[37]. Risk is also due to volatility [42],[43],[44],[52],[53]. Thus, a hypothesis is built in an alternate form for empirical testing.

H<sub>1</sub>: Default risk impacts the dividend policy

### **B. Ownership Concentration (OC) and Dividend Policy**

Ownership concentration (promoters' holding) has apparent reasons to impact the dividend policy in the firms. There are three sets of studies on this issue. First, find evidence that the OC positively impacts the dividend policy [25]. The second set of studies shows no association [13]. The third set shows that OC negatively impacts the dividend policy [25]. Therefore, viewing the contradictions in the literature

regarding OC and dividend policy, it is pertinent to look for fresh evidence for the same. Thus, the following hypothesis is formed for empirical testing:

H<sub>2</sub>: Ownership concentration impacts the dividend policy

### **C. Profitability and Dividend Policy**

Profitability is an apparent and most explicit determinant of the dividend policy. As a firm earns more, they are supposed to distribute the excess cash after meeting the requirement of investments while maintaining the capital mix [2],[3],[54]. Various studies on the determinants of the dividend policy endorse this point of view [9],[33],[38],[39]. Banks and their support for financing also has its bearing on the dividend policy of the firms [20],[21][30],[46]. Financial inclusion also helps in uplifting the poor, and in the long-run such moves can make the economy strong and eventually, firms in the economy and banks both may be better placed to have adequate dividends policy [45],[47],[48],[50],[51]. Therefore, it is logically correct to consider profitability as the moderating variable on the association of default risk and dividends. Thus, the following hypothesis is framed in the alternate for empirical testing.

H<sub>3</sub>: The profitability moderates the association of default risk and dividend policy

### **D. Dividends are sticky**

There are pieces of evidence that claim that dividends are sticky [23],[24]. However, dividends are still one of the most debatable issues in the corporate world due to the lack of consistency in its approach [2], [3], [8],[40]. In such a scenario, it is apt to look for a fresh set of evidence regarding the stickiness of the dividend policy. It is interesting to see how the policy of consistent dividends gets a beating due to the triad of default risk, OC and profitability. Thus, the following hypothesis in alternate form is built for empirical testing:

H<sub>4</sub>: Dividends are sticky

## **III. DATA AND METHODOLOGY:**

### **A. Sources of Data:**

Data for the study considered from the pre-defined set of S&P BSE-100 index from CMIE prowess for five financial years. Because it includes the majority of India's major sector companies, the S&P BSE-100 index was chosen. As a result, it is possible to consider the sample to be representative. Due to the limitation of our study to non-financial enterprises, we initially examined 80 firms from the non-financial sector; however, due to the lack of data for the balanced panel, we eliminated two firms, leaving us with a sample of 78 firms from various sectors. The annual reports made available in English or in the native language, as well as the Prowess database of CMIE for corporate businesses established in India, were the key sources of information for our study. Authors successively explored the appropriate corporate website and other alternate sources for the missing information in the initial source.

**B. Variables considered for the study:**

Table 1 reports the variables used in the study, their description and the sources of the variables. For the current study authors have considered four exogenous variables along with an interaction term (obtained from multiplying interest coverage ratio with

operating profit margin after demeaning the values respectively). Sales and Market capitalization are the considered as the control variables of the study. Lagged values of the few variables are used to stabilize the data set.

**Table 1. Variable Definition**

Variable Name	Symbol	Description	Data Source
Interest coverage ratio	ICR	A measure of the adequacy of a company's profits to meet its interest payments.	CMIE / PROWESS
Operating Profit Margin	OPM	The indicator is a measure of operating profit of a firm since it excludes all income and expenses that are not related to the main operations of a firm.	CMIE / PROWESS
Promoters	Promo	the person or persons who are in control of the company, directly or indirectly, whether as shareholder, director or otherwise; or person or persons named as promoters	CMIE / PROWESS
Dividend	divi	Amount paid to equity share owners, as a per cent of the total profit after tax.	CMIE / PROWESS
Interaction term of ICR and OPM	D_ICR_OPM	Interactive term of interest coverage ratio multiplied by operating profit margin.	-
Sales	Sales	The act of transferring a product or service in return for cash or other considerations.	CMIE / PROWESS
Market Capitalization	Mcap	The total market capitalisation of the company.	CMIE / PROWESS

Note: Table 1 describes the Variables considered for the study.

**IV. RESULT**

**A. Descriptive Statistics:**

Table 2 summarises the study's descriptive findings. The idea of multicollinearity has been ruled out because none of the independent variables, including control variables, have a correlation coefficient greater than 0.80. Dividend has the mean value of .08675 with a small standard deviation, which describes that generally in the non-financial firms there is prevalence of modest level of dividend payout practices. Where interest coverage ratio has a high level of mean and standard deviation indicates the level of enough profits available to service the debt, among the firms. The promoters have a moderate 3.7853 mean value, and operating profit with .20834 with minimal mean values reflects that the variable considered for the study is a good fit for the model considered.

**Table 2. Descriptive Statistics and Correlation**

	Correlation Matrix						Mean	SD
	divi	ICR	OPM	lpromo	l_sales	l_mcap		
<b>divi</b>	1						0.08675	0.14427
<b>ICR</b>	-0.0541	1					3623.8	21547.5
<b>OPM</b>	-0.2868	-0.0013	1				0.20834	0.13831
<b>promo</b>	-0.98	-0.7454	-0.0089	1			3.7853	0.74406
<b>l_sales</b>	0.0923	-0.022	-0.8615	-0.1893*	1		9.5988	1.3366
<b>l_mcap</b>	-0.0687	-0.6651	-0.8615	-0.1893*	-0.2802*	1		

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	-0.0055	-0.6079	0	-0.0002				
	0.2588*	-0.0943	0.0166	-0.073	0.5499*	1	10.771	0.98204
<b>l_mcap</b>	0	-0.0664	-0.7471	-0.1558	0			

Note: Values in correlation matrix are correlation coefficients. Values in parenthesis are p-values. \* Significant at 5%.

**B. Static Panel Data Analysis:**

Table 3 shows the results of the static panel data model. The fixed effect (FE) F-test and the random effect (RE), BP-Test are both significant. As a result, the Hausman test is used, which is not rejected, resulting in RE conformation in the given dataset. The unobserved individual effect of non-financial firms is found to be random and unrelated to the regressors. As a result, the one-way time-invariant RE model is calculated. Only the interest coverage ratio is significantly connected to dividends among the four exogenous factors considered for the study. However, the coefficient's value is low and negative (-1.26e-1 and significant at 5 % level of significance). The remaining three regressors, promoters', operating profit margin, and the interaction term, (D\_ICR\_OPM) are all statistically insignificant. Because both autocorrelation and heteroscedasticity are determined to be substantial, Table 3 presents robust estimates.

**Table 3. - Static Panel Data Analysis**

Static Robust Estimates			
	Coefficient	SE	P-Value
Constant	.0582	.4819	0.904
ICR	-1.26e-1*	5.64e-1	0.028
OPM	.0304	.1252	0.809
D_ICR_OPM	-4.17e-1	2.87e-1	0.885
lpromo	.0008	.0043	0.848
l_sales	-.0276	.0519	0.597
l_mcap	.0265	.0186	0.158
R-Square		0.1833	
SE of Regression		.08938	
Note: No of observations (n)		380	
Degree of freedom		77	
F-test Fixed Effect		6.58* (0.0000)	
Breusch and Pagan Test		193.87* (0.0000)	
Hausman Test		10.10 (0.0387)	
Wald test for Heteroscedasticity <sup>1</sup>		3.4e+06* (0.0000)	
Wooldridge Autocorrelation Test <sup>2</sup> AR (1)		4.152*(0.0450)	

**Note:** <sup>1</sup>Wald test of heteroscedasticity has the null of no heteroscedasticity. <sup>2</sup>Wooldridge test of autocorrelation in panel has the null of no autocorrelation (with 1 lag). SE is standard error of regression. <sup>®</sup> Standard Errors are robust estimates due to significant Heteroscedasticity or Autocorrelation or both.

**C. Dynamic Panel Data Analysis:**

The use of dynamic panel data estimates eliminates the risk of endogeneity. Table 4 shows the findings of the dynamic panel data. Except for the lag of dividends, none of the exogenous variables are statistically significant. As the associated Arnello-Bond AR (1) test is significant, the dynamic panel results have an autocorrelation problem, hence robust estimates are presented. As the sargan test is not significant, the authors are unable to detect any over-identification issues. The employment of both static and dynamic panel data models ensures robustness, as seen by both approaches' findings on the presented datasets.



**Table 4. Dynamic Panel Data Analysis**

Dynamic Robust Results (two-step GMM)			
	Coefficient	SE	P-Value
Constant	-.0810	.0805	0.317
ldiv	.6852*	.1139	0.000
Prom	.0003	.0002	0.235
ICR	-8.96e-1	8.39e-1	8.39e-0
OPM	.0026	.0279	0.926
D_ICR_OPM	2.26e-1	4.67e-1	0.630
L_sales	-.0107	.0064	0.098
L_mcap	.0190	.0109	0.085
Sragan Test		0.46 (0.794)	
Arnello-Bond AR(1)		-2.61*(0.009)	
Hansen test		1.83 (0.400)	

**Note:** Saran test is the test of over identification issues under GMM framework. The null hypothesis of Sargan test is that there is no over-identification problem in dynamic panel data model. Arnello-Bond test used in the analysis is for serial autocorrelation in the first differenced error terms of the order 1. <sup>®</sup> Robust Estimates \* significant at 5%.

## V. DISCUSSION

### A. Hypothesis Testing

It is found that hypothesis 1 that default risk impacts dividend policy cannot be rejected as ICR is significantly impacting dividends (Table 3). The hypothesis two that OC impacts the dividend policy is rejected. The third hypothesis that profitability moderates the association of default risk with dividends is also rejected. The fourth hypothesis that dividends are sticky cannot be rejected as the lag of dividends is significantly impacting the dividends.

### B. Discussion and comparison of the findings

It is evident from the findings of the current study that default risk negatively impacts the dividends (however, the coefficient is almost equal to zero). This implies that as the default risk goes down, dividends also goes down. This result is consistent as well but can be ignored as the value of the coefficient is very small. In addition to this, surprisingly, it is found the dividends are not significantly impacted by OC, profitability and interaction of profitability with the default risk. Another important evidence found in the study is regarding significant (positive) lagged term of dividend in the dynamic panel data model. This proves the point that the dividends invariably follow the policy of consistent dividends irrespective of the level of profitability, risk and OC on the firms. This is a very surprising result.

### C. Contribution and implication

Three important contribution are found in the study. First, the significant default risk term with the dividends.

The second important contribution is significant lagged term of the dividends. The third and last contribution of the paper is the OC, profitability and the interaction of profitability with the risk do not impact the dividends in the firms in India. The scope of the study is emerging economies and therefore, finding of the current study can be replicated there. The major implications of the study are two pronged, for managers and policymakers. The managers need to accept that dividend policy is a profit distribution policy. The profit distribution policy need not be expenditure policy as it is found in the study. Profit distribution should be done after adjusting for the investment requirements of the firms in consonance with the capital mix of the firm. It seems, the basic tenet of the corporate finance is flouted by the firms. It seems, managers pay heed to only how stock market or investors will react to if there is inconsistent dividend distribution. The lack of maturity, an example that corporate have not come of age. Corporate are failing to take apposite decision for the betterment of all the stakeholders of the firm regrading dividend distribution. The policymakers should develop mechanism of differential stock catering to varied expectations of the investors.

Such attempts are made, but they either do not get appropriate support from the regulators or did not get support from the investors. In either of the cases, the purposed failed and the exercise become futile. We would like to recommend using the findings of the current study that government should redraft the policy on the differential

voting rights shares in due consultation with the investors groups and promoters.

## VI. CONCLUSION

This study is aimed at establishing the association of default risk, ownership concentration (OC) and profitability with the dividends policy of the firms. Surprisingly, it is found that only default risk is significantly associated with dividends in Indian firms. Non-significance of profitability and OC is a strange finding of the study. No association of the interaction term of profitability on the association of default risk with dividends is equally astonishing. Furthermore, significant lagged term of dividends affirms the consistency of the dividends in the Indian firms. This finding repudiates all the other observations which proclaim the adoption of contemporary and mature dividend policies in the firms in India. This situation demands course-correction approach by both the concerned parties, managers and corporates. Ingenuous solutions like differential voting rights are recommended in refurbished avatar so that its acceptability and utility could be ascertained in the future. This study does not have any variable to represent the investment requirement of the firm. As per the basic finance theory, dividends should be adjusted according to the investment requirement of the firms. This study tries to determine the consistency of the dividends using lag of dividend as the variable. However, the other relevant variable, for investment is missed out. A future study incorporating investment term can be done on the topic.

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