Does Payout Policy Affect Firms' Performance? Evidence from Textile Industry in India

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Abstract

This paper made an inquiry to whether dividend-paying firms are more efficient compared to their non-dividend paying counterparts. To achieve the same, we have employed a non-parametric frontier estimation technique, data envelopment analysis (DEA), on the selected dataset of 73 firms from the textile industry in India. Our result shows that non-dividend-paying firms are 11.17% less efficient in their performance compared to dividend-paying firms. Further analysis indicates that efficient firms have better corporate governance compared to inefficient non-dividend-paying firms. Furthermore, the non-parametric test " Kruskal-Wallis" reveals that there is a significant difference of about 5.15 % between "high corporate governance dividend paying firms" compared to "low corporate governance non-dividend paying firms".

Keywords
Payout Policy; Firm Performance; Data Envelopment Analysis; DEA; Corporate Governance

1. Introduction

Dividend income for a shareholder outrightly competes with capital gains in terms of its return on investments. However, in the presence of tax on dividend income which is usually higher than the tax on capital gains worldwide, researchers argue that ceteris paribus, a rational firm, should not payout dividends (Collins and Kemsley, 2000). Instead, returns through capital gains maximize shareholders' wealth. But, in the presence of market imperfections, especially agency problems and information asymmetry between different stakeholders, dividend payout adds to the firm's value (Li and Zhao, 2008; Brockman and Unlu, 2009; Lin, Chen and Tsai, 2017).

Researchers argue that dividend payout reduces agency problems between different stakeholders (Rozeff, 1982; Easterbrook, 1984) and thus adds to a firm's value. The insiders of a firm (owner-manager) have better knowledge about the firm's expected future cash flows compared to the outsiders (marginal investors). In this environment of information asymmetry, and in the absence of any information-revealing mechanism, marginal investors fail to predict a firm's true value (Miller and Rock, 1985; Fosu *et al.*, 2016). Dividend payout under such circumstances is expected to reduce this information asymmetry regarding firm's value between insiders and outsiders (Miller and Rock, 1985; Lin, Chen and Tsai, 2017).

If a payout activity reduces agency costs and information asymmetry between different stakeholders, the firm's performance is expected to be high compared to non-payers. Therefore, one should find a direct association between the firm's payout activity and its performance. In this study, we test the hypothesis that firms paying dividends are more efficient in terms of performance than their non-dividend counterparts.

Corporate governance is another tool that reduces agency cost and information asymmetry between different stakeholders. A better corporate governance is expected to reduce agency costs between different stakeholders (Ang, Cole and Lin, 2000; Singh and Davidson III, 2003; Lei, Lin and Wei, 2013). Similarly, effective corporate governance puts great emphasis on disclosures, managing agency conflicts, and reduces firm's related information asymmetry (Kanagaretnam, Lobo and Whalen, 2007; Cormier *et al.*, 2010). Thus, both dividend payout and better corporate governance should enhance the firm's performance. Empirical studies also show a strong association between a firm's corporate governance and its payout policy (Gugler, 2003; Mitton, 2004). In this context, this study aims to empirically test the combined effect of dividend payout and corporate governance on the firm's performance.

The rest of the paper is divided into three sections. In section 2, we describe the data used and the methodology employed. Section 3 empirically tests and reports the results related to the relationship between payout policy, corporate governance, and firm performance. In the last section, we derive our conclusion and discuss the implications of the findings.

2. Data and methodology

2.1 Dataset

For empirical application, listed Indian textiles companies for the period 2016 to 2017 are selected. The sample data is obtained from the prowess database maintained by the Centre for Monitoring Indian Economy Pvt. Ltd. (CMIE). For data analysis, we start with 192 textile firms-year observations from the two financial years to get an adequate sample size. Then we discard all those firms from the efficiency analysis, whose dividend and corporate governance related information is not available. Further, we also remove observations with extreme value above and below 1.5 IQR (Interquartile range). The final data contains 73 firm-year observations. Note that while pooling the two-year dataset, we assume that the underlying technology is non-regressive.

2.2 Variables

In accordance with the previous studies, we construct the DEA model by choosing three inputs and one output. The inputs are Total Assets (TA), Total Expense (TE) and Organization Capital (OC) whereas output is specified as Sales (SALES). To investigate the role of dividend payments on the firm's performance, we use a dividend dummy variable that indicates whether a firm has disbursed dividend to the stakeholders within a financial year or not. Additionally, as alluded previously, to ascertain the role of corporate governance, we use a corporate governance indicator. A firm is classified as having good corporate governance if the ratio of independent to non-independent directors is greater than the industry median; else, it is flagged as having poor corporate governance.

2.3 Methodology

In this subsection, we illustrate the estimation firm's performance, measured as technical efficiency, based on data envelopment analysis (DEA). Traditionally, in the efficiency literature, data envelopment analysis (DEA) has been extensively used for performance evaluation of the decision-making units (DMU) in different areas such as banks, hospitals, transportation, manufacturing, etc. See (Liu *et al.*, 2013) for a detailed review of DEA applications. DEA was first introduced by (Charnes, Cooper and Rhodes, 1978; Banker, Charnes and Cooper, 1984). DEA considers each DMU as a black box. During the transformation process, it assumes that as an input is being consumed, and output is being produced. In the estimation process, it does not bother how input has been transformed into outputs rather it focuses on their absolute values. It builds piecewise frontier empirically from the sample data itself with the set of minimal assumptions without assuming any explicit functional form about the production technology; See (Ray, 2004) for more details on DEA assumptions. In contrast to another efficiency estimation technique stochastic frontier analysis (SFA), which relies on the regression technique, DEA uses the linear programming technique to estimate the efficiency of DMUs. Though, both approaches have their own strengths and weaknesses. Due to the simplicity of the DEA approach in technology estimation, we prefer to use it. Let us define relevant notations and underlying production assumptions.

Suppose, inputs and outputs of a firm denoted by x and y vectors. Length of x and y denoted by N and M, respectively. Such that, $x \in R_N^+$ and $y \in R_M^+$. The total numbers of firms are $J = \{1,2,\ldots,J\}$. For a feasible input-output bundle, corresponding production technology can be defined as follows

$$T = \{(x,y): y \text{ can be produced by } x\} \tag{1}$$

Following the (Banker, Charnes and Cooper, 1984) output-oriented VRS- DEA technical efficiency for firm t, having input-output bundle (x_t, y_t) can be denoted as follows

$$\begin{aligned}
&\phi^* = \max \phi \\
&\text{subject to:} \\
&\textstyle\sum_{j=1}^{J} \lambda_j y_{rj} \geq \phi \cdot y_{rt} \;\forall\; (r = 1 \ldots\ldots M) \\
&\textstyle\sum_{j=1}^{J} \lambda_j x_{ij} \leq x_{it} \;\forall\; (i = 1 \ldots\ldots N) \\
&\textstyle\sum_{j=1}^{J} \lambda_j = 1; \qquad \lambda_j \geq 0\ \&\ \phi \text{ is unrestricted}
\end{aligned} \tag{2}$$

In the above expression, the restriction $\sum_{j=1}^{J} \lambda_j = 1$ ensures the variables returns to scale (VRS) estimation. ϕ^* denotes the maximum radial expansion of the output vector y_t whereas λ_j denotes the intensity vector, and the reciprocal of (ϕ^*) defined as output-oriented technical efficiency of a firm t. By construction ϕ^* lies in $[1,\infty)$ and $\left(\frac{1}{\phi^*}\right)$ will be in $[0,1]$.

Once, the efficiency estimates are obtained from the optimization model as discussed in (2), firms are classified into four groups- high dividend paying with high corporate governance, high dividend paying with low corporate governance, low dividend paying with high corporate governance, low dividend paying with low corporate governance. Firms paying dividend ratio greater than the industry median are classified as “high dividend paying firms”. Similary, firms having the ratio of independent to non-independent directors greater than the industry median are classified as “high corporate governnance firms”. These four groups of firms are compared using non-parametric *Kruskal-Wallis* test to examine the difference between in the mean values of dividend and non-dividend paying firms.

3. Empirical results

The descriptive statistics of the input and output variables are presented in Table 1. The robustness of the model has also been warranted using (Cooper, Seiford and Zhu, 2004) test. This test ensures that the number of observations should be decently enough to discriminate the efficiency estimates. According to this test, the number of observations should be greater than three times of inputs and output combined.

Table 1: Descriptive statistics of input and output variables.

Label	Mean	Median	Standard Deviation	Minimum	Maximum
TA	3940.501	2111.800	4440.309	23.900	17451.000
TE	3695.130	1816.500	4290.010	13.300	18936.900
OC	95755.232	54415.048	108118.008	1449.687	483749.917
SALES	3572.238	1839.200	4271.782	7.700	19897.000

*All variables are in million rupees.

We found that the overall sector's performance is not highly scattered, and results indicate that big and small firms have differences in their performance. Thus, there might be a possibility that big firms do have a slight edge over small firms as they may perhaps enjoy economies of scale. As visible from Figure 1, the distribution of the efficiency estimates across the sector is quite concentrated with a mean efficiency of 83.34%. Indicating that there was an inefficiency of about 16.66% from 2016 to 2017. Furthermore, we subset the data in four quarters as per their sales and found that the mean efficiency of four quarters is 72.59%, 82.51%, 86.47% and 91.69%, respectively. This shows that small firms are struggling in maintaining their performance while big firms are attaining high-efficiency levels.

Next, we enquire our central question, does the firm's payout policy affect the firm's performance? To examine the same, we ran a non-parametric test Kruskal-Wallis to examine the difference in the efficiency of the two sub-groups firms paying the dividend and - firms not paying dividend. The test result reveals a significant difference between the efficiency estimates of dividend-paying and non-dividend-paying firms (a mean difference of 11%) at 1% level of significance (chi-square=37.176, df=1). This implies that the firm’s payout policy does have a positive relationship with the firm's performance. As a result, dividends paying firms turned out to be more efficient than the firms that are not paying. In addition, similar insights look more pronounced in Figure 1 (depicting the density plot of the firms). Firms not paying dividends are skewed towards the left and comparatively more flattered to those who are paying dividends.

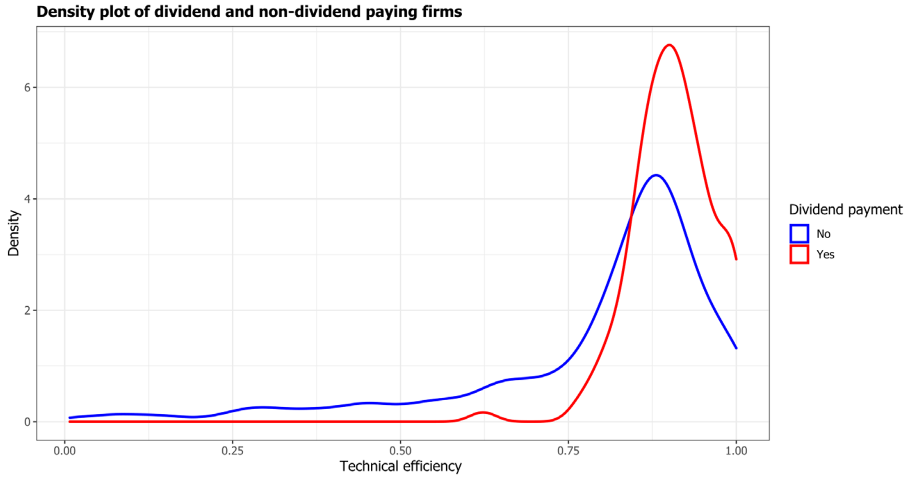

Figure 1: Density plot of dividend and non-dividend paying firms

Furthermore, the role of corporate governance was also investigated to gauge whether it affects the firms' performance or not? To do so, we computed an indicator of corporate governance practices indicating the compositions of independent directors within a firm. On average, it was found that firms with high levels of corporate governance and paying dividends are likely to be 5% more efficient than the firms with low corporate governance levels and not paying dividends. See Figure 2.

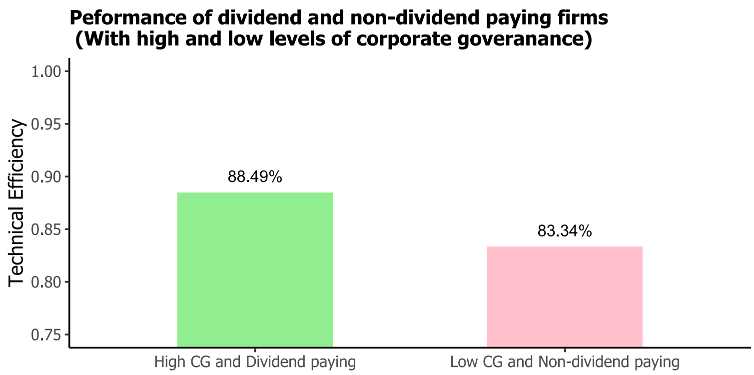

Figure 2: Technical efficiency of dividend and non-dividend paying firms.

4. Conclusion

Empirical studies in different countries' contexts show that dividend payout reduces agency cost and information asymmetry between different stakeholders. A firm with lower agency conflicts and a lower information asymmetry between different stakeholders should perform better compared to the others. We find that this is indeed the case, and dividend-paying firms have better efficiency (with a mean difference of 11.17%) compared to their non-dividend counterparts. Further test results show that a dividend-paying firm with better corporate governance performs better in terms of efficiency (with a mean difference of 5.15%) compared to their non-dividend paying firms with poor corporate governance. Strangely, the mean difference between dividend and non-dividend paying firms have reduced when the corporate governance indicator is also factored in (mean difference between the two groups reduces from 11.17% to 5.15%). The probable explanation for this may be that a) either the effect of corporate governance has been suppressed by the effect of payout policy on firm performance or, b) the effect of corporate governance on firm performance is opposite to what is expected. But one has to dig this question further before reaching any conclusion. We leave this question open-ended for a future analysis on this observation.

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Biography

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