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AN EMPIRICAL ANALYSIS OF DETERMINANTS OF DIVIDEND POLICY OF INDIAN REAL ESTATE SECTOR

ABSTRACT

This paper studies the determinants of dividend policy by analyzing the 125 real estate companies in India. To find out what determines dividend policy, ten firm-level explanatory variables are selected and regressed against the dividend policy measure dividend payout ratio. This study employs three measures of panel data analysis to discover the important determinants of the dividend payout ratio. Empirical findings indicate that firm risk as measured through price-earnings ratio (P/E Ratio), previous dividend, investment opportunities, and profitability have positive associated with a dividend payout ratio of selected real estate firms. On the other hand, the size of the firm, leverage, and liquidity significantly affect dividend payout ratios, and these variables have a negative relationship with a dividend payout ratio of the selected real estate firms. The present study shall be useful to different stakeholders of real estate companies.

Key Words: Dividend Policy, Dividend Payout Ratio, Retention Ratio, Price Earnings Ratio, Debt-Equity Ratio, Returns on Equity, Quick Ratio

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INTRODUCTION

Indian economy is experiencing tremendous growth after the incorporation of certain economic reforms Viz., demonization in 2016, implementation of Goods and Service Tax and various other positive moves to boost various sectors. The growth of the real sector lies in the availability of adequate funds and demand for real estate properties. The major factors to boost the real estate sector the investment in the form of equity share capital and debt. The major factors encourage the public to invest in this sector are adequate stock returns, capital appreciation and regular distribution of dividend to its existing shareholders. The management board of every company is expected to take that decision which ultimately provides optimum benefit to shareholders. The present study has been undertaken to explore the key determinants of dividend decisions of BSE listed real estate companies. The determinants used in the study have been discovered from the previous studies carried out at the global level. The determinants observed in this study can be utilized to know the future dividend policy of any real estate company or the interpretation can be made for the whole set of Indian real estate companies. Data collected from the selected companies were for the period of 2009 to 2017. This time period is the post-recession period. Due to much volatility in the recession period in the real estate firms at the global level, no data have been taken of the firms before March 2009. Panel data estimation with cross section random effect and fixed effect has been used to validate and arrive at the most useful findings of the study. The study arrived with more significant finding consistent with previous studies. The previous dividend, liquidity, firm risk, size, leverage, growth, age of firm and investment opportunities are found to be significant determinants of the dividend payout ratio.

The Indian real has shown significant development and importance after the liberalization of the economy. The development of the Indian real estate sector has led to the development in the hospitality, entertainment, socio-economic services, retail, IT and ITES, etc. With dynamic development in the country, the real estate sector in India has observed fast expansion. The average annual GDP growth of about 7% in the last decade has paved the path of this sector which has been fuelled with the propelling demand for residential homes by the people in general and high quality commercial office spaces by rapidly developing businesses, particularly in IT and ITES sector across a number of cities in India. Besides this, the mushrooming of Malls- the indispensable business centers for the present society and the potential entry of international retailers like Wal-Mart and Carrefour have given new dimensions to the Indian real estate market.

Along with this, the contribution of Indian retailers like Big Bazar, Reliance, etc. cannot be ignored which has significantly added to the growth of the real estate business in India. The augmented Foreign Direct Investment in construction projects has not only brought respite to the constrained real estate market but has also energized it. Accordingly, a number of foreign companies like Blackstone Group, Goldman Sachs, Citigroup Morgan Stanly, and many others have raised money for investment in Indian reality. It has therefore been observed that the Indian market has provided enough potential not only to the foreign investor but also to the business involved in real estate occasioning its development. The Indian real estate industry significantly differs from the real estate industry in the rest of world as it is very huge, varied, multifaceted and disjointed and is experiencing rapid

enlargement (Lynn et al., 2010). Since investing in emerging markets just like India may be intimidating, therefore due care has to be taken while making investment decisions in a developing economy which has legal and cultural differences with the western countries.

The Indian real estate market is becoming one of the most ideal destinations for investment in the Asia Pacific region. The foreign direct investment in India in the real estate sector has been increased to 50% as compared to 26% in 2013. The Indian real estate sector or market can be categorized into four sub-sectors Viz., hospitality, housing, retail and commercial sector. During the last decade, organized retail has shown significant growth in India which led to the expansion of the Indian real estate market and flow of overseas funds to India. The growth of real estate sector has shown significant growth of corporate environment and consequently, this has raised the demand of office space & as well as the requirement of urban and semi-urban accommodations for the people who are stakeholders of the corporate world according to data released by Department of Industrial Policy and Promotion (DIPP).

The Indian construction industry is ranked third taking other 14 sectors together in terms of various aspects i.e., direct, indirect and induced effects in all sectors of the economy. This is also expected that the Indian real estate sector will attract more non-resident Indian (NRI) & overseas funds for short term as well as long term period. Bangalore is predicted to be remaining the most attractive location for flow overseas and NRI's funds, followed by Ahmadabad, Pune, Chennai, Goa, Delhi, and Dehradun. It is also expected that investment in Indian real estate sector will increase to 180 US billion dollars by 2020. The significance of this sector can be seen on this fact that 5 to 6 % of the gross domestic product is contributed alone by the housing sector. The market size of this sector is expected to be increased at a compounded annual growth rate (CAGR) by 11.2% by 2020. All the sub-sectors as described above are also showing (Retail, hospitality, and commercial) significant growth, given that the much-needed infrastructure for India's increasing requirements. It is observed from the past trends that there is more flow of private equity funds and Non-Banking Financial Companies (NBFCs) are showing a great amount of interest for investing jointly in real estate projects (India Brand Equity Foundation, 2016).

Dividend decisions or dividend policy

The Dividend is that part of the profit (profit after tax and preference dividend) which is available for distribution among equity shareholders. The profit which is available for distribution is also known as divisible profit. Distributed divisible profit to the shareholders or owners of the firm is known as a dividend. The profit which is not distributed between shareholders and retained by the firm for internal business use is known as retained earnings. This retained profit can be act as a source of finance. Distribution of dividend also depends upon the internal financial requirement for diversification and expansion and as well as the rate of interest prevailing in the debt market. Profit may not be dispersed if there is there need of funds for business expansion and there is a higher rate of interest in the debt market. The dividend policy or dividend decisions are the vital part of corporate financial strategy, and it may also affect the future expansion plans as well as the overall cost of capital. At the first level, the rate of dividend is decided by the board of directors in their board meetings

and it is declared by the shareholders in their annual general meeting (AGM). Dividend policy of the company is designed in such a way to maximize shareholders value.

Shareholders do not have the right to increase the rate of dividend as recommended by the Board of directors in their board meetings, but they may take the decision to reduce the rate of it. Since dividend decisions are related to the timing of cash payments to existing shareholders, these decisions are very important for the firm as it may affect the capital structure as well as future stock prices of the firm. These decisions may also affect the tax liability of shareholders (ICAI, 2016).

Dividend decision or dividend policy deals with either to pay a dividend to the shareholders or retain the earnings within the firm. Distribution of dividend to equity shareholders depends upon the preference of the shareholders and the investment opportunities prevailing within the firm. However, ultimately this decision should be taken by analyzing their impact either on the shareholders' value or his wealth. The dividend should be distributed if due to its distribution there shall positively impact on shareholders wealth and there is no more profitable investment opportunity is available for the company. Since the optimal dividend policy is when the wealth of shareholders increases or the value of the firm rises, the finance division must have to consider all its decisions. Investment, financing, and dividend while computing the pay-outs. If more lucrative investment opportunities exist inside the firm, then the shareholders must be swayed to sacrifice their share of dividend and reinvest in the firm for better future returns (Business Jargons, 2016). The present study has been organized by including a review of literature comprising studies carried out international level followed by research gaps, the contribution of study and research methodology. Later, results obtained from panel data techniques are analyzed and interpreted. The last section of the paper deals with discussion, conclusion, and implication of studies.

LITERATURE REVIEW

A literature review helps to critically analyze the published documents on a research topic. It helps in acquiring in-depth knowledge about a certain topic and understanding the contribution made by different researchers over the years. It provides clarity about the research work done so far in a particular area of study. Thus it becomes a strong foundation for an investigation related to the chosen topic. The previous findings help in identifying the scope for further research. The literature review has been divided on the basis of variables relevant to the study. In the present study, a literature review has been segregated into two parts i.e., the Dividend policy of real estate investment trusts or real estate firms and determinants of dividend policies.

Dividend policy and its determinants of real estate investment trusts or real estate firms

The first study was conducted by Lintner (1956) to identify the determinants of dividend policy by taking the database of American companies in the middle 1950s. His study ended with the findings that dividend decision or dividend payout ratio depends upon the two important variables i.e., current profitability, as well as the dividend, declared in the previous

year. Since a number of studies have been conducted and there is an ongoing debate regarding the significant variables affecting dividend decisions of the firm. Different studies are showing diverse results, but there is also unanimous consensus regarding some of the variables affecting dividend decisions. Fama and Babiak (1968) who evaluated the Lintner model on the dividend decisions maintained that firms will try to raise the dividend only when the dividends can be continued in the future. Black (1976) finds no influential reasons for the distribution of dividend to equity shareholders. However, in another similar study as conducted by Aivazian, Booth and Cleary (2003), they found that dividend decisions of the firm may be affected by a number of variables Viz., profitability, size, debt, risk, tangibility and growth. Gordon (1959) who coined the bird in hand theory supported that the present value of near future dividends is higher than the present value of distant dividends. He argued that the dividends to be received in future have much uncertainty as compared to the dividends in the near future since the shareholders would prefer certain returns; the future stock prices of that company will higher who pays a regular dividend as compared to those companies paying lesser dividends or no dividend.

Wang et al. (1993) studied the determinants of dividend policy of US REIT and the effects of the announcement of a dividend. They discovered that there is a correlation of return-on-assets, growth, Tobin's Q, and leverage on the natural logarithm of dividends scaled by net income. Their results indicate a lack of one consistent determinant across their study period. On the other hand, Lee et al. (2015) discovered the intra-industry effect of cash dividends announcements for U.S. real estate investment trusts (REITs). Their results suggested that REIT dividend announcements have contagion effects. In addition, consistent with the existing literature, these contagion effects are found to be asymmetric and more prevalent for dividend decreasing events. Another study by Ameer (2007) examined the dividend payout practices followed by the listed real estate firms in Malaysia. The result of his study indicated that dividend payment was less sticky. He also observed that the Malaysian firms use to reduce the dividend payments when operating risk rises which are measured by volatility of cash flows. Further, he also observed that family ownership has a significant positive effect on the dividend policy of real estate firms and suggest that these firms use dividend policy to reduce agency conflicts. Diversification of real estate firms significantly affects dividend decisions of firms.

Devos, Spieler, and Tsang (2013) observed that short-term liquidity is not the biggest influence on a REIT's decision to issue elective stock dividends. They did not find out any relationship between the elective stock dividend decision and a REIT's long-term debt structure. They also found out that the firms who have near the date of redemption of debt these firms prefer to pay a stock dividend instead of a cash dividend. Therefore, the payment of cash dividend or stock dividend may be depending upon the date of payment of debts taken by the firm or leverage. Various studies (e.g., Bradley et al., 1998; Ghosh and Sirmans, 2006; Hardin and Hill, 2008; Wang et al., 1993) have provided evidence that real estate firms or REITs pay more cash dividend as compared to required by tax code requirements because this will help to reduce the free cash flow and further help to alleviate the agency cost as recommended by Jensen (1986).

Downs et al. (2000) and McDonald et al. (2000) examined the unfavorable collection cost component of bid-ask spreads and find significant impacts of REIT dividend policies on their asymmetric information measures. Hardin and Hill (2008) and Lee et al.

(2010) also found that excess dividends can be used to help REITs become more transparent, and thus have better access to the capital market. Capozza and Seguin (1998) covered the time period from 1985 to 1992. They examined dividends per share depends upon lagged FFO, the change in FFO, leverage, the market value of assets, a fitted FFO volatility measure. They found that that leverage and market value assets are significant determinants. Wang, Erickson, and Gau (1993) gave a primary assessment of REIT dividend policies in the pre-modern REIT period and find a healthy negative relationship between ROA (an indicator of profitability) and the payment of dividends. Ghosh and Sirmans (2006) carried out a study to investigate dividend policies and a dividend yield of REIT for the time period of 1999 to 2000 and they specifically look at the role or influence of CEO and board of directors on the dividend declaration and payment. The payment of the dividend is related to the CEO's tenure, ownership, and board independence. Bradley, Capozza, and Seguin (1998) showed that REIT managers are aware of the need to strategically manage dividend policy to take into account the potential negative impact a reduction in dividends might signal. The authors show that REITs with greater leverage and smaller size have lower payout ratios. These results are consistent with the information-based explanations for dividends developed by Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985). REITs evaluate current and prospective funds from operations to ensure that funds are available to make dividend payments expected by equity investors. Labhane (2017) conducted a study to examine the empirical determinants of a dividend payout ratio of 947 firms listed in Bombay Stock Exchange (BSE) of India. The result of his study showed that the that most of the decline is due to the dividend payout of smaller, less profitable, younger firms and firms with comparatively more investment opportunities, high financial leverage, high business risk, and high dividend distribution tax.

Determinants of dividend policy other than real estate investment trusts or real estate firms

There are many studies conducted at international level have found various significant factors which may influence future dividend payment of companies. These significant variables as discovered from different studies have been categories in for parts. Kennedy and Nunnally (1986) carried out a study to identify the determinants of a dividend payout ratio of 80 large banking firms for the time period of 1982 to 1983 using multiple regression analysis. From the results of regression, they observed that that previous year dividend payout ratio and the price-earnings (PE) ratio were the significant determinants of dividend decisions. Firm risk can be reflected through P/E ratio (price/ earnings) P/E ratio unreservedly incorporates the perceived risk of a given company's future earnings (Fama and French 1998; Friend and Puckett, 1964). Mollah et al. (2002) conducted a study of Dhaka Stock Exchange listed companies and they observed that companies those who have paid a large amount of dividend although these firms are considered riskier. On the other hand, the majority of earlier research (e.g., Rozeff, 1982; Al-Kuwari, 2009; Al-Shubiri, 2011) observed that there is a strong negative relationship between dividend payout ratio and level of firm risk. The firm having high price-earning may be considered as a low-risk firm which might lead to a high dividend payment to existing shareholders. Gupta and Walker (1975)

conducted a study by taking 980 banking firms from the time period of 1965 to 1968. He discovered that there is a positive association between dividends and current profitability and a variation in profits from the previous year, total profits over time the period and the growth in total assets (as measured taking a net change in assets as compared to the previous year). On the other hand, they found there is a negative association between the liquidity and the bank's dividend payout. Usually, very cautious investors desire to receive regular cash incomes from their investment. Pettit (1977) examined the behavior of retired investors and pension funds and found that these people were much inclined to prefer cash income and may, therefore, desire the firm to pay out a high percentage of its earnings in the form of a dividend. On the other hand, shareholders in their acme earning years favor the plowing back of their earning in the business and low dividend payments.

Mercado-Mendez and Willey (1995) conducted a study to observe the agency cost of 104 largest USA banking firms for the time period of 1985 to 1989 respectively. They found that only single variable i.e., total assets have a significant relationship with dividend yield. They recommended that banks in the USA use more amount of dividend to control for agency cost. Kania and Bacon (2005) examined the impact of different financial variables on dividend policy or dividend decisions. They carried out study taking financial data of 10000 listed firms using Ordinary Least Squares (OLS) regression. Findings of their showed that future company's dividend decisions may be affected by company profitability, the growth of the company, level of risk, liquidity, insider ownership and expansion (growth in capital expenditure). Dickens et al. (2002) examined the determinants of dividend policy of USA banking taking 4112 firms' observations for the time period of 1998 to 2000. Results of their study found that investment opportunities signaling, ownership and risk are the significant variables and these variables have a negative association with dividend payment or dividend payout ratio. On the other hand, they also observed that firm size and past dividend history are positively related to the dividend payment. Anil and Kapoor (2008) analyzed the impact of determinants of dividend policy on a dividend payout ratio of selected information technology firms. The study came out with findings that corporate tax, cash flows, market-to-book value ratio, and sales growth do not explain the dividend payment in the Indian IT sector. The study also observed that liquidity and earning volatility or beta are the significant determinants of the dividend payout ratio.

Parua and Gupta (2009) completed research to analyze the impact of different determinants of dividend decisions by taking financial data of 607 listed Indian companies for the time period 1993 to 2005 respectively. Results of their study showed that past, present and expected future profits have a significant impact on dividend payout ratio and profitability are positively associated with dividend payments. They also observed that cash flow and cash balance have a negative impact on the future rate of dividend payments of firms. Okpara (2010) in his research found that there are three significant determinants of dividend payout ratio in Nigeria Viz., profitability, liquidity and previous year dividend. Results of his study showed that profitability had a negative impact on dividend payments and liquidity and the previous year's dividend have a positive effect on the future dividend payments. Al Ajmi and Hussain (2011) conducted a study to know the effect of different financial variables on dividend decisions in Saudi Arabia. They took financial data of 54 listed firms of Saudi Arabia for the time period of 1990 to 2006. They discovered that dividend of Saudi Arabian firms depends upon the profitability of the firm i.e., companies

pay a high dividend when there are more profits and less dividend or no dividend in the case of low profitability. Their study found that profitability, cash flows, and lagged dividend payments have a significant impact on the dividend payout ratio. Imran (2011) investigated the influence of different factors on the dividend payout ratio of 36 listed firms of Pakistan engineering sector by using the financial data for the time period 1996-2008. He used various panel data analysis techniques. He discovered that cash flow negatively affects dividend payout ratio of engineering firms in Pakistan. Whereas he found that earning per share, profitability, last year dividend sales growth and size of the firm positively affect dividend payout ratio. Mehta (2012) conducted a study to investigate the determinants of dividend decisions of listed firms in Abu Dhabi stock exchange. He took companies from different sectors viz., energy, real estate and construction, telecommunication, health care & industrial sector & time period of study was 2005 to 2009. Results of the study discovered that profitability and size of the firm are the most significant factors affecting dividend payout ratio of listed firms in Abu Dhabi Stock Exchange.

According to Pecking order theory, Myers' (1984) states that firms prefer to finance future expansion and diversification out of internal sources (retained earnings) and they want to retain more amounts of funds to finance different investment opportunities. Further, this theory states that these firms rely less on external sources of finance for financing various investment opportunities. Therefore, firms have greater future expansion and diversification plans prefer to pay lower dividends and interested to plough back these profits in business. Investment opportunities can be proxied by the market-to-book ratio. In other words, we can say that the higher the market-to-book ratio, the lower will be the dividend payout. La Porta et al. (2000) explored that countries the high level of legal protection and fast growth firms prefer to lower dividend to its shareholders. Retaining profit and investing the same in profitable opportunities can enhance shareholders value.

Companies in business from longtime span may have a good reputation as compared to those companies with a short period in business. The reputation of the firm may attract funds at a lower rate of interest from external sources for financing future expansion and diversification. Diamond (1989) ended by saying financial institutions use a firm reputation to evaluate the creditworthiness. This goes to suggest that age and dividend policy would be negatively related. In spite of the Diamond concluded, firms that are old and aging tend not to have more growth opportunities to fund because they may either be at their maturity or decline stages of their life cycle.

Research gaps

As evident from the literature, there are numerous studies which have been conducted at the international level to examine the impact of dividend policy on the value of firms for real estate firms or real estate investment trusts (REITs). There are also some studies which are conducted to know the dividend behavior of equity REITs. While some other studies at the international level focused on know the determinants of an elective stock dividend in REITs. Some more studies at the international level are associated with REITs to make the debate over the firm's behavior for a stock dividend or cash dividend. In India, there are abundant studies to identify the determinants of dividend policy in general as well as some sector specific. But there is no single that has been carried out to examine the determinants

of dividend policy or dividend decisions of real estate firms or REITs. The present study will fill the gap by investigating key factors which may influence dividend decisions of real estate firms or REITs. The present study will not only confine to know the determinants of a dividend payout ratio of real estate firms. But it will also identify the factors which prompt real estate firms or REITs to retained firm and not to distribute profits in the form of a dividend.

By taking into deliberation the range of studies at global level carried out in real estate as well as other sectors the following determinants have been identified and used in the current study. There are also some latest studies in the year 2017, 2018 and 2019. These studies are cited in Table 1.

Table 1. Determinants of Dividend Policy

Independent Variables	Measure	Theory	Citation
Previous Dividend	Last year dividend	Not specific	(Gordon ,1959 ;Kennedy and Nunnally,1986 ;Okpara, 2010; Baker, Dewasiri, Koralalage, and Azeez ,2018)
Agency Cost/Cash flow	PBT+Depreciation +Interest/capital Expenditure/Total assets	Agency cost theory	(Singla & Samanta , 2018 ; Mahdzan, Zainudin & Shahri,2016 ; Kumar & Sujit 2018).
Firm Risk (P/E)	Market Price of Share/Earning Per Share	Signalling theory	(Kennedy and Nunnally,1986; Dickens, Casey & Newman, 2002 ; Rozeff, 1982; Al-Kuwari, 2009; Al-Shubiri, 2011; Mollah, 2009 ; ; Kennedy and Nunnally, 1986; Fama & French, 1998; Friend & Puckett, 1964; Aivazian, Booth and Cleary, 2003; Patra , Poshakwale & cong , 2012)
Size (sales)	Natural Logarithm of Sales	Not specific	(Patra, Poshakwale & cong 2012; Mehta, 2012; Aivazian, Booth and Cleary, 2003; Perretti, Allen, Marcus & Weeks 2013; Yusof & Ismail 2016; Mahdzan, Zainudin & Shahri , 2016; Baker, Dewasiri, Koralalage and Azeez, 2018; Thakur, Kannadhasan, 2018 ; Singla & Samanta , 2018 ; Kumar, & Sujit 2018).
Profitability (EPS)	Earnings Per Share/ Signalling theory	Agency cost theory	(Patra , Poshakwale & cong 2012 ; Mehta , 2012; Al Ajmi and Hussain 2011; Okpara 2010; Parua and Gupta 2009; Kania & Bacon,2005 ; Gupta and Walker,1975 ; Aivazian, Booth and Cleary, 2003 ; Perretti, Allen, Marcus & Weeks 2013; Yusof & Ismail 2016; Mahdzan, Zainudin & Shahri ,2016 ; Baker, Dewasiri, Koralalage and Azeez, 2018 ; Thakur, Kannadhasan, . 2018; Ranajee, Pathak & Saxena 2018; Kumar, & Sujit 2018).
Liquidity (CR)	Current Ratio	Not specific	(Okpara,2010; Kapoor 2008; Kania & Bacon,2005 ; Kumar, & Sujit ,2018).

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Leverage (DER)	Debt Equity Ratio	Agency cost theory.	(Aivazian, Booth and Cleary, 2003; Baker, Dewasiri, Koralalage and Azeez, 2018; Sah, Vivek Zhou, Xiaorong 2012; Yusof & Ismail, 2016; Mahdzan, Zainudin & Shahri, 2016; Ranajee, Pathak & Saxena, 2018; Kumar, & Sujit, 2018).
Growth (% Change in TA)	% Change in Total Assets	Pecking order theory.	(La. Porta et al. 2000; Kania & Bacon, 2005; Aivazian, Booth and Cleary, 2003; Sah, Vivek Zhou, Xiaorong 2012; Thakur, Kannadhasan, 2018; Ranajee, Pathak & Saxena 2018).
Age	Non linearity of Age= the square of log of age	Not specific	(Diamond, 1989 ; ; Kania & Bacon, 2005 ; Ranajee, Pathak & Saxena 2018).
Investment opportunities (INV) or growth opportunities	Market Price to Book Value Ratio or P/B ratio	Pecking order theory.	(Myers, 1984; Dickens, Casey & Newman, 2002; ; Kania & Bacon, 2005 ; Patra, Poshakwale & Song 2012 ; Perretti, Allen, Marcus & Weeks 2013; Yusof & Ismail 2016; Baker, Dewasiri, Koralalage and Azeez, 2018 ; Ranajee, Pathak & Saxena 2018 ; Kumar, & Sujit 2018).

The following are the main objectives of the study:

- O1: To identify the determinants of dividend payout ratio (using net profit and cash profit) of the Indian real estate sector.
- O2: To identify the determinants of retention ratio or retained earnings of Indian real estate sector firms.
- O3: To provide useful suggestions to the board of directors of real estate firms for formulating a dividend policy that will maximize shareholders value or value of the firm.

Hypothesis

- Hypothesis 1:* The previous dividend has a significant positive impact on a future dividend payout ratio of Indian real estate firms.
- Hypothesis 2:* Agency cost negatively affects the dividend payout ratio of Indian real estate firms.
- Hypothesis 3:* Firm's risk positively affects future dividend payout ratio of Indian real estate firms.
- Hypothesis 4:* Size of the firm has a significant positive impact on a future dividend payout ratio of Indian real estate firms.
- Hypothesis 5:* The profitability of the real firms positively affects the future dividend payout ratio.
- Hypothesis 6:* Liquidity has a significant positive or negative impact on the future dividend payout ratio of Indian real estate firms.
- Hypothesis 7:* Leverage signifies the negative association with a dividend payout ratio of Indian real estate firms.
- Hypothesis 8:* The growth of the firm depresses future dividend payout ratio of Indian real estate firms.
- Hypothesis 9:* Higher the age of the real estate firm depresses future dividend payout ratio.
- Hypothesis 10:* Higher the investment opportunities in real estate firms daunt the future dividend payout ratio.

RESEARCH DESIGN

The present study is an empirical analysis of determinants of dividend policy of real estate sector in India with the most recent available data. It is explanatory research and has employed a quantitative method. A sample of top 125 real estate companies was taken on the basis of their sales turnover and secondary data associated with financial statements were collected from their annual reports and the prowess database. The determinants

observed in this study can be utilized to know the future dividend policy of any real estate company or the interpretation can be made for the whole set of Indian real estate companies. Data collected from the selected companies were for the period of 2009 to 2017. This time period is the post-recession period. Due to much volatility in the recession period in the real estate firms at the global level, no data have been taken of the firms before March 2009. Moreover, for arriving at good analysis and an adequate number of observations for the study more recent data have been taken off the last nine years. This paper studies two types of companies: those that are engaged in construction and contract for housing and real estate. The measures of dividend policy have been resolved from the studies conducted across the globe. At the initial stage, the various determinants of dividend policy are identified from the various studies conducted in numerous countries. Consequently, the panel data analysis technique is employed to determine whether there exists a relationship between the multiple explanatory variables. Panel data analysis is conducted at three different ways (i.e., without fixed and random effect, with fixed effect and with cross section random effect). Before applying three different measures of panel data analysis, panel unit root tests are used to check data series of a particular variable is stationary or not. Panel unit root tests are conducted at the level, at first and second difference. Consequently, above-stated measures of panel data analysis are used for the estimation of future dividend payout ratios of selected real estate companies. Two equations are formed to develop the models using firm-specific determinants and the different measures of leverage or capital structure. Data were regressed using Eviews10 application software and the result obtained is analyzed.

Equation for the different models

a.
$$\text{LEVERAGE (DPR-1)} = \alpha + \beta_1 \text{ PREVIOUS DIVIDEND} + \beta_2 \text{ SIZE} + \beta_3 \text{ AGENCY COST} + \beta_4 \text{ FIRM RISK} + \beta_5 \text{ PROFITABILITY} + \beta_6 \text{ LIQUIDITY} + \beta_7 \text{ LEVERAGE} + \beta_8 \text{ GROWTH} + \beta_9 (\text{INV}) + \beta_{10} (\text{AGE}) + e$$

b.
$$\text{LEVERAGE (DPR-2)} = \alpha + \beta_1 \text{ PREVIOUS DIVIDEND} + \beta_2 \text{ SIZE} + \beta_3 \text{ AGENCY COST} + \beta_4 \text{ FIRM RISK} + \beta_5 \text{ PROFITABILITY} + \beta_6 \text{ LIQUIDITY} + \beta_7 \text{ LEVERAGE} + \beta_8 \text{ GROWTH} + \beta_9 (\text{INV}) + \beta_{10} (\text{AGE}) + e$$

Scope of the study

In financial management, there are three imperative decisions which are supposed to be taken by the financial manager. These decisions are financing decisions, investment decisions, and dividend decisions. All these decisions are taken in such a way that the shareholder's wealth or firm value is considerably augmented. Out of these three decisions dividend, decision or decisions related to dividend policy are more critical. The consistent payment of a dividend may very well impress the investors and enhance the share prices. However during some specific periods dividend payment may not be advantageous to the company, as there may be huge needs of funds for expansion or diversification and funds

available in the financial markets may be very costly due to inflation trends. In these situations, it will be good for a firm to retain funds and not to utilize it for dividend payment. This study principally attempts to inspect a number of the characteristics that determine the behavior of Indian real estate firms towards dividend payouts ratio and retention ratio. To accomplish the objectives of this study, the annual reports for the period 2009 to 2017 were analyzed. A sample of 125 real estate companies was taken on the basis of their sales turnover and secondary data associated with financial statements were collected from their annual reports. In addition, this study also focuses to investigate the various factors which either affect the dividend policy or the retained earning decisions.

Contribution of the study

Dividend decisions are vital parts of financial management. Various theories of capital structure state that dividend decisions may have a significant impact on shareholders' value. Whether to pay a high dividend or low dividend or no dividend it shall be decided by seeing its impact on shareholders' value. The ultimate objective of higher authorities should be to arrive at an optimum dividend policy which will be able to magnify shareholders value. The present study identifies the various firm-level significant variables which may affect the dividend decisions of the firm. This study has depicted that the explanatory variables of dividend policy viz., Liquidity, firm risk, and leverage are the significant variables in the companies, and the concerned authorities' aims should be the maximization of shareholders value or value of the firm. Regarding dividend decisions, they would like to use different proportions for distribution of dividend as well as retention of profit for ploughing it back in business. The different significant variables as discovered in this study shall be useful to the concerned authorities of the company enabling them to adopt a dividend policy that provides maximum benefits to the existing shareholders of the company. The present study has many contributions to different stakeholders of the firm. This study will be useful to all existing or prospective cautious shareholders who would like to invest in the company only after deliberations on the amount of dividend or regular income they may fetch from the company. This will enlighten the shareholders about various significant factors which may influence a firm's capital structure and consequently affect their net earnings.

Different financial institutions may also be interested to know the different determinants of a firm's dividend policy or decisions. Companies that pay a high proportion of dividend and retain less amount of earning for internal use of business considerably rely on debt financing from banks or financial institutions. Thus the interested banks or financial institutions which are eager to lend money to existing firms design their credit policies accordingly. Moreover, these financial institutions earning by way of interest will also depend upon the amount of debt or loan they lend to various firms. The government of a particular country will also be interested to know the impact of various significant determinants on a firm's dividend policy.

As government revenue due to tax collection may also be affected by the different combinations of debt and equity, companies paying high dividend require much amount of debt for internal financing and for diversifying or expanding the business. Since a high amount of debt requires the payment of a higher amount of interest, therefore tax liability of a company will decline as interest is a deductible expenditure for ascertaining the tax

liability of the company. Apparently, society may also be eager to know the effect of various determinants on the firm's dividend decisions and subsequently take a decision regarding their investment in the firm's assets.

EMPIRICAL FINDINGS

Table 2 depicts the descriptive statistics of all the independent variables taken in the current study. Average previous year dividend of real estate sector has remained Rs. 38.58 Crore. It is much volatile as revealed from the standard deviation and coefficient of variation. Average agency cost measured in terms of PBDIT to TA is lowest to 0.14; the standard deviation of this is 0.15 which higher than average. Agency cost highly volatile. Similarly, all other predictors variables show high volatility during the study period as their standard deviation and CV are quite higher. The only size measured in terms of the natural logarithm of sales value has less fluctuation, as its SD and CV are low. Average current ratios are greater than one which shows high liquidity in the real estate sector. But there are many variations in this ratio during previous years. Leverage (DER) is less than one which means a lower proportion of debt as compared to equity capital. Average EPS was Rs. 9.87 but it is highly volatile during the study period. Invest Opportunity as measured with Invest P/B Ratio is 2.6677; SD and CV (%) of this ratio are also quite higher. It means there is much variation of P/B ratio of real estate sector. Table 3 also exhibits the dividend payout ratios and retention ratio. The first measure of dividend payout ratio is the total dividend paid to net profit and second is a total dividend paid to cash profits. The third ratio is retention ratio which is 100- dividend payout ratio (DP to net profit). An average dividend of net profit was 22.26% and 17.43% of cash profits. On the other hand, average retention ratio is 77.74%. There is much variation in dividend payout ratios as revealed from their standard deviation (SD) and coefficient of variation (CV).

Table 2. Descriptive statistics of Independent Variables & Dependent Variables

	N	Mean	Std. Deviation	Skewness	Kurtosis	CV (%)
Liquidity (Current Ratio)	112 5	2.6088	3.9716	7.98	73.99	152.2
Previous Dividend	112 5	385.8	107.515	4.5	21.18	278.7
Agency Cost	112 5	0.137650 6	0.15114	3.86	20.43	109.8
Firm Risk (P/E Ratio)	112 5	98.45612 5	407.5217	7.52	64.13	413.9
Size	112 5	6.07E+00	1.91E+00	-1.34	2.493	31.46
Profitability (EPS)	112 5	9.8694	13.96305	3.47	17.4	141.5
Leverage (DER)	112 5	0.7677	0.64678	1.79	5.441	84.25
Growth	112 5	0.603996 1	2.69E+00	7.52	61.68	445.5
Invest Opportunity (P/B Ratio)	112 5	2.6677	4.37865	4.85	28.94	164.1
Age	112 5	1.697806 8	0.766279	-0.57	-0.612	45.13

Descriptive of Dependent Variables

	N	Minimum	Maximum	Mean	Std. Deviation	Coefficient of variation
DP to net profit	112 5	0	683	22.26	59.399	266.8419
D P Ratio Cash Profit	112 5	0	200	17.43	25.879	148.4739

Results of unit root test

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For the time span of 10 years and 125 real estate firms, we started with unit root test for checking the stationarity of data series of 10 exogenous and two endogenous variables. There are a variety of panel unit root tests. In the present research paper, the tests proposed by Levin, Lin and Chu (LLC) (2002), Im, Pesaran and Shin (IPS) (2003) and two sets of Fisher type tests using ADF and Phillips–Perron (PP) as proposed by Maddala and Wu (1999) and Choi (2001) have been used. LLC assumes that the presence of unit roots across cross-sections is the same. IPS and Fisher type tests drop this assumption. Thus for the latter tests unit root is assumed to vary across cross-sections.

Table 3. Panel Unit Root Tests for the Level of the Variables

At level	DPR1	DPR2	PDIV	AC	PE	SIZE	EPS	DER	GROWTH	PB	AGE
LLC											
With C	-18.853 (0.000)	-3.8276 (0.000)	-1.0088 (0.156)	-4.4621 (0.000)	-49.381 (0.000)	-14.017 (0.000)	-1.3038 (0.0954)	-0.4033 (0.343)	-97.453 (0.000)	-90.754 (0.000)	-19.629 (0.000)
With C & T	-12.757 (0.000)	-6.5665 (0.000)	-0.8319 (0.202)	1.8574 (0.968)	-33.321 (0.000)	-17.667 (0.000)	2.4969 (0.993)	-4.3192 (0.000)	-64.9405 (0.000)	-54.386 (0.000)	4.8134 (1.000)
Pesaran & Shin											
With C	-3.0231 (0.001)	-1.1239 (0.130)	0.2569 (0.601)	-2.1203 (0.017)	-10.447 (0.0000)	-2.5741 (0.005)	-0.9338 (0.175)	1.7017 (0.956)	-20.1644 (0.000)	-17.227 (0.000)	-23.275 (0.000)
With C & T	-0.2315 (0.408)	0.18836 (0.574)	-0.0684 (0.472)	0.7029 (0.758)	-2.9486 (0.001)	-0.1775 (0.429)	1.12409 (0.869)	0.83628 (0.798)	-6.2256 (0.0000)	-4.9392 (0.0000)	0.7489 (0.7731)
ADF											
With C	51.760 (0.015)	46.382 (0.048)	32.237 (0.648)	57.517 (0.0128)	82.775 (0.0000)	53.474 (0.0305)	53.168 (0.0325)	45.221 (0.1394)	93.240 (0.0000)	97.434 (0.000)	121.88 (0.000)
With C & T	45.175 (0.095)	34.400 (0.448)	40.756 (0.269)	28.4358 (0.811)	65.83 (0.001)	36.057 (0.466)	28.421 (0.811)	51.244 (0.047)	80.825 (0.000)	75.211 (0.0001)	34.216 (0.553)
PP											
With C	48.447 (0.031)	71.2215 (0.0001)	48.3089 (0.0825)	104.320 (0.000)	136.058 (0.0000)	58.7834 (0.0096)	90.0855 (0.000)	50.0509 (0.0599)	76.6366 (0.0001)	67.8289 (0.0010)	142.384 (0.0000)
With C & T	45.729 (0.086)	51.089 (0.030)	78.298 (0.0001)	94.437 (0.0000)	129.57 (0.0000)	54.536 (0.0245)	83.659 (0.000)	44.818 (0.1487)	93.176 (0.000)	83.921 (0.000)	154.83 (0.000)

*significant at 1% (Pvalue<0.01), significant at 5% (Pvalue<0.05), significant at 10% (Pvalue<0.10)

Note : P value are shown in parenthesis

Table 3 reports the panel unit root of ten exogenous and two endogenous variables. According to LLC test, there is unit root and data series of variables are stationary except PDIV, AC, EPS, DER, and Age. But the variables Viz., AC and Age are found to be stationary with an intercept or constant and DER with constant and trend. According to Pesaran and Shin, data series of a maximum number of variables are showing unit root and data series are not to be found stationary at level except Growth and PB ratio. The Fisher test ADF reflects that unit root exists in the variables Viz., DPR1, DPR2, PDIV, AC, SIZE EPS, DER and age. While the variables PE, GROWTH, and PB are showing that the null hypothesis is rejected that there is no unit root and data series of these variables are stationary at level. The second Fisher test PP reflects that there is no unit root for maximum variables and data series of variables are stationary at level except DER.

The result of unit root test at first difference is presented in Table 4. From the results of unit root test at first difference we can conclude that data series of all the exogenous and endogenous variables are still not to be found stationary and still there is unit root exists in some of the data series Viz., DPR1, DPR2, PDIV by applying ADF test. Similarly, some of the data series are also not stationary according to LLC test, as a p-value of these variables is greater than 0.05. But by applying all these tests and second difference as shown in Table 5, it is evident that all the tests unanimously reject the null hypotheses of unit roots of the variables on their second difference. We, therefore, argue that all the ten exogenous and two endogenous variables are integrated of order two. In other words, we can say that all these variables data series are stationary at second differencing. The associated p-value as shown in parentheses is less than 0.05.

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Table 4: Panel Unit Root Tests for the First Difference of the Variables

	DPR1	DPR2	PDIV	AC	PE	SIZE	EPS	DER	GROWTH	PB	AGE
Levin, Lin & Chu											
With C	-6.2879 (0.000)	-3.1058 (0.000)	-1.2882 (0.098)	-1.0064 (0.157)	-21.940 (0.000)	-18.549 (0.000)	1.3204 (0.906)	-2.9624 (0.001)	-30.9708 (0.000)	-29.208 (0.000)	2.8101 (0.997)
With C & T	-0.9871 (0.161)	0.0739 (0.529)	-2.5613 (0.005)	-8.6859 (0.000)	-13.509 (0.000)	-21.582 (0.000)	-3.3396 (0.000)	-10.186 (0.000)	-18.672 (0.000)	-13.977 (0.000)	-2.9816 (0.001)
Im, Pesaran & Shin											
With C	-2.0741 (0.019)	-1.4915 (0.067)	-3.0751 (0.001)	-2.0019 (0.022)	-7.3796 (0.000)	-3.1255 (0.000)	-1.6565 (0.048)	-0.8824 (0.018)	9.8516 (0.000)	-8.0825 (0.000)	-0.4522 (0.325)
With C & T	0.00863 (0.503)	0.3524 (0.637)	-0.1789 (0.429)	-0.7411 (0.229)	-2.3583 (0.009)	-0.5607 (0.287)	-0.5403 (0.294)	-0.9535 (0.170)	-3.91224 (0.000)	-2.387 (0.000)	-0.2814 (0.389)
ADF											
With C	55.435 (0.011)	47.989 (0.056)	72.671 (0.000)	58.898 (0.009)	104.372 (0.000)	65.6228 (0.001)	60.4677 (0.006)	61.265 (0.005)	117.753 (0.000)	102.899 (0.000)	43.5662 (0.180)
With C & T	37.787 (0.300)	29.74 (0.676)	46.7647 (0.108)	51.3668 (0.0466)	81.737 (0.000)	50.7339 (0.0526)	51.925 (0.041)	63.3068 (0.003)	105.457 (0.000)	85.6957 (0.000)	45.4246 (0.134)
PP											
With C	139.415 (0.000)	142.041 (0.000)	157.883 (0.000)	185.081 (0.000)	228.179 (0.000)	105.660 (0.000)	181.668 (0.000)	118.563 (0.000)	224.256 (0.000)	184.542 (0.000)	187.88 (0.000)
With C & T	151.384 (0.000)	135.105 (0.000)	116.037 (0.000)	175.875 (0.000)	213.538 (0.000)	103.327 (0.000)	153.607 (0.000)	109.432 (0.000)	207.008 (0.000)	168.909 (0.000)	163.089 (0.000)

*significant at 1% (Pvalue<0.01), 5% (Pvalue<0.05), 10% (Pvalue<0.10)

Note : P value are shown in parenthesis

Table 5. Panel Unit Root Tests for the Second Difference of the Variables

Second difference	DPR1	DPR2	PDIV	AC	PE	SIZE	EPS	DER	GROWTH	PB	AGE
Levin, Lin & Chu											
With C	-2.6703 (0.003)	-3.898 (0.000)	-5.295 (0.000)	-10.324 (0.000)	-10.280 (0.000)	-18.405 (0.000)	-10.601 (0.000)	-21.125 (0.000)	-16.344 (0.000)	-11.040 (0.000)	-7.537 (0.000)
With C & T	-6.655 (0.000)	-9.910 (0.000)	-10.625 (0.000)	-18.263 (0.000)	-23.191 (0.000)	-16.859 (0.000)	-61.983 (0.000)	-41.718 (0.000)	-41.170 (0.000)	25.964 (0.000)	19.166 (0.000)
Im, Pesaran & Shhin											
With C	-3.199 (0.000)	-3.117 (0.000)	-4.412 (0.000)	-4.3913 (0.000)	-8.370 (0.000)	-4.282 (0.000)	-5.170 (0.000)	-5.545 (0.000)	-9.725 (0.000)	-7.871 (0.000)	-3.868 (0.000)
With C & T	-0.8266 (0.2042)	-1.105 (0.1344)	-1.5890 (0.0560)	-2.2718 (0.0115)	-5.614 (0.000)	-1.737 (0.0411)	-5.354 (0.000)	-2.266 (0.0117)	-4.277 (0.000)	-4.086 (0.000)	-3.955 (0.000)
ADF											
With C	72.200 (0.000)	70.904 (0.000)	93.445 (0.000)	86.954 (0.000)	132.34 (0.000)	88.410 (0.000)	94.387 (0.000)	83.626 (0.000)	139.959 (0.000)	128.132 (0.000)	79.703 (0.000)
With C & T	53.551 (0.000)	60.234 (0.000)	74.534 (0.000)	76.348 (0.000)	117.791 (0.000)	73.494 (0.000)	89.667 (0.000)	58.137 (0.000)	91.879 (0.000)	103.537 (0.000)	83.748 (0.000)
PP											
With C	2.4651 (0.000)	246.41 (0.000)	215.51 (0.000)	247.60 (0.000)	291.745 (0.000)	183.661 (0.000)	235.324 (0.000)	185.658 (0.000)	297.914 (0.000)	248.543 (0.000)	212.522 (0.000)
With C & T	-209.170 (0.000)	212.968 (0.000)	170.03 (0.000)	207.107 (0.000)	245.853 (0.000)	150.470 (0.000)	228.848 (0.000)	183.271 (0.000)	226.643 (0.000)	214,05 (0.000)	155.442 (0.000)

*significant at 1% (Pvalue<0.01), 5% (Pvalue<0.05), 10% (Pvalue<0.10)

Note : P value are shown in parenthesis

Table 6. Panel Least Squares with Cross Section Random and Fixed Effect (DPR1)

Variables	Cross Section Random Effect		Fixed Effect		Without Fixed and Random Effect	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Agency Cost (AC)	-21.693	-0.9826 (0.3272)	-33.1589	-1.3380 (0.1830)	-22.2837	-1.0139 (0.3121)
Leverage (DER)	-18.7024*	-3.4641 (0.0007)	-26.336*	-3.7753 (0.0002)	-18.6224*	-3.5179 (0.000)
Profitability (EPS)	0.4009***	1.7730 (0.0780)	0.2775	1.0564 (0.2925)	0.4207***	1.8919 (0.0602)
Growth	-2.2181***	-1.7167 (0.0879)	-1.4659	-0.9760 (0.3307)	-2.2592***	-1.76421 (0.0795)
Investment opportunities (INV) or growth opportunities (PB)	2.6816*	2.9597 (0.0035)	2.699*	2.6134 (0.009)	2.6496*	2.9600 (0.0035)
Previous Dividend (PDIV)	0.0842*	2.8661 (0.0047)	0.0287	0.6768 (0.4996)	0.0892*	3.1793 (0.0018)
Firm Risk (PE)	0.1131*	12.9302 (0.0000)	0.1125*	11.178 (0.0000)	0.1130*	13.100 (0.0000)
Liquidity (CR)	-9.2799*	-11.8368 (0.0000)	-9.3015*	-10.505 (0.000)	-9.2485*	-11.8195 (0.000)
Age	-11.327**	-2.5976 (0.0102)	-20.211**	-2.5648 (0.011)	-10.910*	-2.679589 (0.0081)
Size	-4.3727**	-2.4003 (0.0102)	-4.2345***	-1.7729 (0.0784)	-4.4170**	-2.505539 (0.0132)
C	85.594*	8.3501 (0.000)	109.862*	6.4499 (0.000)	84.852*	8.793647 (0.000)
Cross-section random S.D. / Rho		5.8699 (0.0254)				
Idiosyncratic random S.D. / Rho		36.327 (0.9746)				
R-squared		0.6338		0.6909		0.63762
Adjusted R-squared		0.6121		0.6426		0.61605
S.E. of regression		36.216		36.700		36.5373
F-statistic		29.088 (0.000)		8.8191 (0.000)		29.5604 (0.000)
Durbin-Watson stat		1.5118		1.6989		1.19621
Akaike info criterion				10.09403		10.09403
Schwarz criterion				10.88416		10.28991

*significant at 1% (Pvalue<0.01), 5% (Pvalue<0.05), 10% (Pvalue<0.10)

Note : P value are shown in parenthesis

Table 6 reports the results of panel least square with cross random effect and fixed effect. Here the endogenous variable is a dividend paid to net profit (DPR1). Panel ELGS or cross-section random effect shows that there are nine significant explanatory variables of the dividend payout ratio. Variables Viz., liquidity, leverage, firm risk and Price to book value are found to be significant at 1 percent level as a p value < 0.01 and associated t statistics is greater than critical value i.e., 2.57. Leverage and liquidity are showing a negative association with the dividend payout ratio. It means the company who had borrowed more money in the form of debt prefers to pay less dividend. Similarly, the company had higher liquidity prefer to pay a low dividend to its shareholders'. Previous dividend, firm risk and price to book value are showing a positive association with dividend payout ratio. The firms have a higher risk level prefers to pay a high dividend. Similarly, the company showing a higher market price to book value ratio is preferred to pay more dividend to its shareholders.

The previous dividend has a significant positive impact on future dividend as revealed from the positive coefficient of it. Firm age and size are the two variables which are found to be significant at 5 percent level. The associated t statics of these variables is greater than the critical value (1.96) and a p value < 0.05. Both these variables depict negative relationship with dividend payout ratio. It means the firm with large size prefers to pay a low dividend as compared to a firm with lower size. Similarly old aged firm prefers to pay fewer dividends as compare new aged firms. The profitability and growth are the other two variables show a significant positive association with the dividend payout ratio at 10 % level of significance. The associated t-statistics of these two variables is greater than the critical value (1.64) and p-value (< 0.10). R square of cross section random effect is quite higher (0.6338), It means that 63.38% variance of dividend payout ratio (DPR1) as properly explained by all the exogenous variables together. The adjusted R square is 0.6121 and the difference between both is less than 0.05 which further authenticate the model developed with random effect. F-statistic (ANOVA value) is quite higher (i.e., 29.088 and pvalue < 0.01). So, this value is found to be significant at 1 percent level of significance. Durbin Watson ratio (1.5118) states that there is no serious problem of positive autocorrelation.

Panel least square with fixed effect shows (Table 6) that there are six significant explanatory variables Viz., leverage (DER), firm risk, liquidity, investment opportunities, age, and size. Leverage, firm risk and investment opportunities are found to be significant at 1 % level. The associated t statistics of these variables is much greater than the critical value (2.58) and p-value < 0.01. Firm risk and investment opportunities (PB) show positive impact and leverage and liquidity inversely influence the dividend payout ratio of the Indian real estate sector. Age and size are the two other variables found to be significant at 5% and 10% respectively. As there associated t statistics is greater than critical values (1.96 and 1.64) and p-value are less than 0.05 and 0.10 respectively. The R square in panel least square with fixed effect states 69.09% variance of dividend payout ratio (DPR1) as properly explained by all exogenous variables together. F statistics or ANOVA value is 8.8191 and p-value < 0.01. It is significant at 1% level of significance. Durbin Watson ratio is 1.6989 which means there is no serious problem of autocorrelation or serial correlation.

The third model (Table 6) has been developed without a fixed and random effect. In this model, there is a total of eight significant variables. Leverage, firm risk, previous dividend, age, investment opportunities, and liquidity are found to be significant 1 % level.

The associated t statistics of these variables are greater than the critical value (2.58) and p-value < 0.01 . Firm risk, previous dividend, investment opportunities are showing a positive relationship with dividend payout ratio. The leverage, liquidity, and age are reflecting negative association just like earlier two methods. Size is found to be a significant 10 % level and growth and profitability at a 10 % level respectively. The t statistics of size is 2.50553 $>$ critical value (1.96) and p-value < 0.05 . Growth and profitability both have t statistics greater than the critical value (1.64) at 10 percent level and a p value < 0.10 . A positive value of the coefficient of profitability states that it has a vital role in the distribution of dividend to shareholders. While the negative coefficient of the firm's growth state that it discourages the payment of dividend to the company's shareholders. R Square and adjusted R square values are 0.63762 and 0.61605. Just like the first model, approximately 63.76% is properly explained by all exogenous variables together. F statistics (29.5604) is quite higher and significant at 1 percent level of significance (p value < 0.01).

In nutshell, we can say that highly levered firms, aged firms, more liquid firms, firm bigger in size and growing firms may opt to pay less dividend to its existing shareholders. It may be due to the huge need for funds for expansion and diversification. As in the case of bigger and fast-growing firms, there may more need for funds as compared to firms smaller in size and growing at a lower rate.

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Table 7. Panel Least Squares with Cross Section Random and Fixed Effect (DPR2)

Variable	Cross Section Random Effect		Fixed Effect		Without Fixed and Random Effect	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Agency Cost (AC)	-3.5427	-0.2642 (0.7919)	-15.6906	-1.0627 (0.2897)	-3.5427	-0.2530 (0.8006)
Leverage (DER)	-4.0820	-1.2639 (0.2080)	-10.7686	2.5911** (0.0106)	-4.0821	-1.2104 (0.2278)
Profitability (EPS)	0.0045	0.0333 (0.9735)	-0.1832	1.1708 (0.2437)	0.0045	0.0319 (0.9746)
Growth	-0.9184	-1.1755 (0.2415)	0.3923	0.4386 (0.6616)	-0.9183	-1.1256 (0.2619)
Investment opportunities (INV) or growth opportunities (PB)	0.5530	1.0127 (0.3127)	0.7443	1.2095 (0.2285)	0.5530	0.9697 (0.3355)
Previous Dividend (PDIV)	0.0858	5.0119* (0.000)	0.0385	1.5269 (0.1290)	0.0857	4.7995* (0.000)
Firm Risk (PE)	0.0229	4.3476* (0.0000)	0.0145	2.4247** (0.0166)	0.0228	4.1633* (0.000)
Liquidity (CR)	-1.9148	-4.0110* (0.000)	-1.5126	2.8675* (0.0048)	-1.9142	3.8410* (0.000)
Age	-0.7026	-0.2829 (0.7776)	-2.0656	-0.4399 (0.6606)	-0.7026	-0.2709 (0.788)
Size	-1.7002	-1.5809 (0.1158)	-1.9260	-1.3535 (0.1780)	-1.7002	-1.5138 (0.132)
C	30.8054	5.2328* (0.0000)	43.0884	4.2461* (0.000)	30.8054	5.0110* (0.000)
Cross-section random S.D. / Rho	0.0000/0.000					
Idiosyncratic random S.D. / Rho	22.291/1.000					
R-squared	0.229185		0.4251		0.229185	
Adjusted R-squared	0.183304		0.3594		0.183304	
S.E. of regression	23.27755		21.8647		23.27755	
F-statistic	4.995126 (0.0000)		3.9174 (0.000)		4.995126 (0.000)	
Durbin-Watson stat	1.356571		1.3879		1.356571	
Akaike info criterion			9.1894		9.192339	
Schwarz criterion			9.8483		9.388212	

*significant at 1% (Pvalue<0.01), 5% (Pvalue<0.05), 10% (Pvalue<0.10)

Note : P value are shown in parenthesis

Table 7 exhibits the results of panel least squares with cross section random and fixed effect for model two (DPR2). Cross section random effect shows that there are three important predictors of dividend decisions of selected real estate companies. These factors are a firm risk, previous dividend and liquidity, firm risk and previous dividend are showing

a positive relationship with future dividend payout ratio. The liquidity is depicting a negative impact on the future dividend payout ratio. All these variables are found significant in the previous model. All these three variables are found to be significant at 1 percent level of significance, as associated t statistics is greater than 2.58 and P value<0.01. Fixed effect indicates that there are three significant predictors of future dividend decisions of the Indian real estate sector's firms. The two factors leverage and liquidity are showing a negative impact on future dividend payments. The third significant factor firm risk has a positive impact on future dividend payments of Indian real estate companies. Firm risk and leverage are significant at 5 percent level of significance (P value<0.05 and T statistics > 1.96). Without fixed and random effect firm risk, previous dividend and liquidity are found to be significant at 1 percent level of confidence. As associated p value< 0.01 and t statistics quite higher than 2.58.

With cross section random effect and without fixed and random Effect the associated R square is similar (0.2291). It means the exogenous variables together explain approximately 23 % variance of the endogenous variable (dividend payout ratio). With a fixed effect, the R square (0.4251) is quite higher as compared to the earlier two cases. Overall results indicate that higher the leverage and liquidity discourages real estate firm to pay a dividend to their shareholders. On the other side higher risk measured through Price Earnings ratio and higher previous year dividend boost real estate firms to pay more dividends in the future.

¹⁴⁰**Table 8. Acceptance and Rejection of Hypotheses (DPR1)**

		Cross Section Random Effect	Fixed Effect	Without Fixed and Random Effect
H1	The previous dividend has a significant positive impact on a future dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H2	Agency cost negatively affects the dividend payout ratio of Indian real estate firms.	Rejected	Rejected	Rejected
H3	Firm's risk positively affects future dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H4	Size of the firm has a significant positive impact on a future dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H5	The profitability of the real firms positively affects the future dividend payout ratio.	Accepted	Rejected	Accepted
H6	Liquidity has a significant positive or negative impact on the future dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H7	Leverage signifies the negative association with a dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H8	The growth of the firm depresses future dividend payout ratio of Indian real estate firms.	Accepted	Rejected	Accepted
H9	Higher the age of the real estate firm depresses future dividend payout ratio.	Accepted	Accepted	Accepted
H10	Higher the investment opportunities in real estate firms daunt the future dividend payout ratio.	Accepted	Accepted	Accepted

Table 9. Acceptance and Rejection of Hypotheses (DPR2)

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		Cross Section Random Effect	Fixed Effect	Without Fixed and Random Effect
H1	The previous dividend has a significant positive impact on a future dividend payout ratio of Indian real estate firms.	Accepted	Rejected	Accepted
H2	Agency cost negatively affects the dividend payout ratio of Indian real estate firms.	Rejected	Rejected	Rejected
H3	Firm's risk significantly affects future dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H4	Size of the firm has a significant impact on a future dividend payout ratio of Indian real estate firms.	Rejected	Rejected	Rejected
H5	The profitability of the real firms positively affects the future dividend payout ratio.	Rejected	Rejected	Rejected
H6	Liquidity has a significant positive or negative impact on the future dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H7	Leverage signifies the negative association with a dividend payout ratio of Indian real estate firms.	Accepted	Accepted	Accepted
H8	The growth of the firm depresses future dividend payout ratio of Indian real estate firms.	Rejected	Rejected	Rejected
H9	Higher the age of the real estate firm depresses future dividend payout ratio.	Rejected	Rejected	Rejected
H10	Higher the investment opportunities in real estate firms daunt the future dividend payout ratio.	Rejected	Rejected	Rejected

CONCLUSION

Dividend policy deals with to make decisions on whether to distribute dividend or not. Payment of dividend, as well as retention of profit, is the two elements of dividend policy. Usually, dividend payment and retention of profit decisions are taken by seeing their impact on shareholders' value or value of the firm. If, shareholders value can be maximized by distributing dividend than it must be paid. On the other hand, if retention leads to maximization of shareholders value or value of firm than profit can be retained. In addition to this dividend policy of firms may be influenced by various factors. The current study has explored the major determinants of dividend policy by collecting the data of 125 real estate

companies in India engaged in construction and contract for housing & real estate. In the current study, two measures have been used to explain dividend payout ratio i.e, dividend to net profit ratio and dividend to cash profit ratio. As we know that retained earnings are that part of the profit which is not distributed in the form of a dividend. Due to the high level of leverage, the real estate sector is greatly influenced by the capital markets. Real estate companies have a huge amount of security, i.e. the actual assets, which is used to carry high levels of debtor or loan.

The study has arrived at conclusion highlighting some important determinants of dividend decisions Viz., Liquidity, firm risk, leverage, previous dividend and size of the firm. Results of real estate companies in India engaged in construction and contract for housing & real estate were quite surprising as liquidity is one of the significant variables it showed a negative relationship with dividend payout ratio for selected Indian real estate firms. Firm risk and previous year dividend show a positive association with the current dividend payout ratio. Leverage also demonstrates a negative relationship with dividend payout ratio and retained earnings. In the present study liquidity is one of the significant variables it showed a negative relationship with dividend payout ratio for selected Indian real estate firms. On the other hand Patra, Pokhwale, and Yong (2012) find that liquidity factors increase the probability to pay a dividend. They find out that the firm's dividend payout ratio of the firm or dividend payment depends upon the liquidity position of the firm. The firm has high liquidity or high current ratio pays a higher dividend, whereas less liquid firm pays a minimum dividend to its shareholder due to the shortage of liquid funds. Their study suggested there is a positive relationship between dividend payment and liquidity. Liquidity has a strong positive effect on dividend policy whereas the business risk is significant and inversely related to dividend decisions.

Redding (1997) discovered that the dividend decision is quite strongly and positively associated with firm size and the liquidity of the company's shares in the stock exchange. Leverage is the other significant determinants of dividend policy as observed in the present study. It has a negative association with the dividend payout ratio. This means that firms who use more amount of debt capital in their capital structure, they pay less amount of dividend to their shareholders. Rozeff (1982) proposed that firms which have a high proportion of debt capital in their capital structure prefer to pay a lower dividend to their shareholders to decrease the transaction costs associated with external financing. Patra, Pokhwale, and Yong (2012) and Mahdzan, Zainudin, and Shahri (2016) also find out that financial leverage decreases the likelihood to pay dividends. Firm risk as measured through price earnings ratio indicates that there is a positive association of firm risk with dividend payout ratio. This is only the variable which has been found significant in all the models. The firm risk is one of the highly influencing factors of dividend policy for selected Indian real estate firms. (Maladjian and Khaury 2014) also found that dividend payout policies are positively affected by firm risk as measured through price-earnings ratio (P/E Ratio). The significance of this variable could be due to the fact that banks that enter into high-risk ventures are able to attract premium interest that boosts their returns. The previous dividend paid has also a positive impact on future dividend payout ratio as revealed from model number 1 and 2 of DPR-2.(Okpara, 2010; Maladjian and Khoury, 2014; John Lintner, 1956; Kinfé , 2011). Observed that the previous year's dividend exerted a positive impact on the payout ratio. Size of the firm as measured through the natural logarithm of sales was

found a significant factor in model 2 of DPR-2. Some other researchers have shown that a firm's size is a significant determinant of dividend policy (e.g., Aivazian et al., 2003; Al-Malkawi, 2008; Lloyd, Jahera, and Page, 1985; Brockman and Unlu, 2009).

The diverse significant variables as exposed in this study shall be valuable to concerned authorities of company for arriving at an optimum dividend policy of company and providing utmost benefits to existing shareholders as well as to company. This study will be useful to all existing or prospective shareholders who would like to invest in the company by carefully considering the amount of dividend or regular income they may fetch from the company. Different financial institutions may also be inquisitive about the different determinants of a firm's dividend policy or decisions. The companies that pay a high proportion of dividend retain less and rely much on external financing for expansion and diversification. Evidently, banks and financial institutions who are interested to lend money to these entities will welcome the knowledge about the various determinants of dividend policy. Consequently, they can forecast the dividend as well as the source of internal financing (retained earnings) of the company. Accordingly, they may design their credit policies to these companies. Moreover, these financial institutions earning by way of interest will also depend upon the amount of debt or loan they lend to various firms. As government revenue due to tax collection may also be affected by the different combinations of debt and equity, companies paying high dividend require a higher amount of debt for internal financing and for diversifying or expanding the business. If there will high leverage or debt in the firm's capital structure than it will need to pay a high amount of interest. Because of this, the tax liability of a company declines as interest is a deductible expenditure for ascertaining the taxable profits. Similarly, the public or society will also be interested to comprehend the effect of various determinants on the firm's dividend decisions so as to prudently invest in the firm's assets.

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