Abstract: Economic fallouts from COVID-19 have been unprecedented across all industries, with a handful of exceptions. The present study attempts to capture the impact of dividend distribution tax elimination, introduced through the Indian Finance Act 2020, on corporate dividend behavior in India. It explores the determinants of dividend payouts, changing payout decisions, dividend behavior of regular payers, and the prevalence of factors associated with changing payouts. Out of the top 1000 firms, based on their market capitalization at the Bombay Stock Exchange, 509 non-financial firms pursuing consistent dividend payments from 2015 to 2019 are analyzed. The study also examines the dividend behavior of regular payers exhibiting a stable or step-up payout from 2015 to 2019. COVID’s impact on the firm’s financial performance and sentiments seems to dominate, suppressing investors’ expectations of enhanced payouts associated with dividend distribution tax advantages, with considerable reductions in payouts and omissions shown by regular and irregular payers in 2020 and 2021 vis-à-vis the preceding years. The findings signify that the dividend payouts of sample firms are positively associated with the firms’ size, MBV ratio, and past dividends, and negatively allied with free cash flows and the EBITDA margin. Regular payers are observed to be more sensitive to past dividends. The study lends credence to the conservatism and prevalence of signaling and catering theories in the dividend behavior of Indian corporate firms.

Keywords: DDT amendment; Indian Finance Act 2020; dividend payout; regular payers; COVID-19 economic disruptions; dividend cuts; omission

1. Introduction

Dividend distribution is a crucial corporate financial decision, likely to have significant implications for a firm’s growth and shareholder value. The dividend constitutes the part of corporate earnings distributed to shareholders after making provisions for investment requirements and targeted capital structure (Higgins 1972; Walter 1963). Virtually, firms are free to decide on the level of profits to be distributed as dividends (Alekneviciene et al. 2015). However, the dividend is a complex decision attributable to numerous factors and pragmatic considerations across regions, sectors, industries (Ramaratnam et al. 2012; Singla and Samanta 2019), and environmental situations (Gangil and Nathani 2018; Ghose and Kabra 2016). Moreover, the firm’s payout flexibility is constrained to legal requirements (Al-Najjar and Kilincarslan 2017), debt covenants, available liquidity (Thaiyalnayaki and Reddy 2018), agency relationship (Jensen 1996), board composition, ownership structure (Rajput and Jhunjhunwala 2019; Juhanani 2020), viable investment opportunities, firm growth rate (Walter 1963), and investors’ expectations (Baker and Wurgler 2004; Bilel and Mondher 2021).

The literature provides numerous theories supporting the varied dividend-paying behavior seen in the corporate sector. While traditional Walter, Gordon, and Modigliani approaches postulate dividend decision-making to be an idealistic situation of the perfect capital market. Behavioral theories posit the influence of investors’ market sentiments and agency issues in firms’ payout decisions. As per the Walter approach (Walter 1963), dividends are the product of a firm’s rational choices based on viable investment opportu-
nities and growth rate. At the same time, Gordon (Gordon 1959) relates dividend income to investor’s expectations. According to Gordon’s ‘a bird in the hand is worth two in the bush’ justification, investors prefer a current stream of income in the form of dividends, and therefore any postponement of payout is subject to adverse repercussions, discounting share prices (Bhattacharya 1979). Signaling and information theories also lend credence to the dividend as an important indicator of a firm’s profitability and well-being (Miller and Rock 1985; Mohd and Zaharudin 2019). As the firms’ sizes and scattered shareholdings start to grow, agency theory starts to become significant—the proponents of the theory advocate payouts as the redressal for minimizing agency conflicts (Rozell 1982; Tran 2020; Jensen 1999).

The theories above have been empirically examined by a large number of studies (Dixit et al. 2020; Tran 2020; Baker and Weigand 2015), exploring corporate dividend behavior across sectors (Kapoor et al. 2010), regions (Dewasiri et al. 2019), and in varied settings, firm-, industry- or environment-specific, corroborating varied determinants for payout decisions and their impact on the value of firms (Martono et al. 2020; Mahenthiran et al. 2020). Despite these extensively explored aspects, the literature remains inconclusive in explaining the factors and theories guiding the firms’ behavior regarding dividends (Shetty and Rao 2020).

The Indian economy is among the fastest-growing economies in the world. Since liberalization, the Indian economic and financial system is transitioning towards a development into a self-sustained system, facilitating balanced growth across all sectors and segments. Beginning with the delicensing of some sectors (in 1990), India’s market capitalization at present accounts for three quarters of its nominal GDP. About 8000 listed companies exist, channelizing the investment of millions of Indian and foreign investors. The increase in investors’ participation in the Indian capital market at NSE in recent years is provided in Figure 1. As shown, there has been a consistent rise in participation by retail individuals, proprietary firms, partnership firms, LLPs, Trust/Societies, AIF, Depository receipts, PMS clients, Statutory, FDI, OCB, FNs, OFIs, VC Funds, NBEF, etc. (Figure 1). As for the Security and Exchange Board of India, in the last decade, there has been a 100% increase in the Demat accounts, from 19 million in 2011 to 40.8 million in March 2020. Since the opening of the Indian Stock market for foreign investors, there has been a consistent rise in FDI. With the onset of the pandemic, global financial conditions tightened sharply, precipitating a selloff by portfolio investors, unprecedented both in scale and pace. As per the RBI Financial Stability Report 2020, due to the lack of liquidity in debt markets, mutual funds (MFs) faced high redemption pressures during Q1:2020–21. However, the market started reviving from June 2020 onwards following improved sentiments, the weakening of the US dollar, and increased global monetary and fiscal stimulus. In November 2020, net FPI inflows were recorded at an all-time high, valued at USD 9.8 billion. During April–December 2020, net FPI inflow in equities were valued at USD 30.0 billion versus USD 6.0 billion in the preceding year; mutual fund schemes witnessed net inflows of ₹2730 billion. Despite pandemic disruptions, during which developed economies across the globe noticed a significant decline in FDI, the Indian market has witnessed a 13% rise in the pandemic-battered year 2020.

To ensure investor protection and fair and transparent corporate practices, the Indian regulatory authorities, through the Companies Act, SEBI, Income Tax Act, and relevant agencies, consistently monitor and amend the rules on a time-to-time basis. One such amendment has been introduced recently through the Finance Act 2020, wherein the dividend distribution tax (DDT) is eliminated, effective from 1 April 2020, shifting the incidence of tax from the distributing companies to the recipient shareholders. Taxes are evidently the dominating factor influencing corporate dividend decisions (Mahenthiran et al. 2020). These taxes act as discouraging factors for dividend distribution (Lintner 1956; Fama and French 1998; Brennan 1970). The increased corporate tax rates, achieved by reducing the earnings after tax, weaken companies’ capabilities to pay dividends (Singla and Samanta 2019). The DDT is levied on the distributed dividend, which is the constituent of after-
tax profit. This involves double taxation, first in the form of tax on corporate earnings and, second, retaxing the same earnings when distributed as dividends, thus enabling the shareholders to receive a dividend net of DDT. Higher dividend tax rates, vis-à-vis capital gains taxes, result in unfavorable implications in the form of higher payouts on share prices (Brennan 1970; Deslandes et al. 2015; Fama and French 1998). The unfavorable consequences of DDT often make it a legitimate rationale for conservative payout decisions (Brennan 1970; Elayan et al. 2009; Ismail et al. 2018; Edgerton 2013; Chang and Rhee 1990; Labhane and Mahakud 2018; Karjalainen et al. 2020).

The literature studies are replete with evidence authenticating dividend cuts as signaling firms’ dimmed growth prospects. Therefore, managers are often reluctant for dividend reductions and appreciate step-up dividend payouts, portraying the typical dividend payment as naively following reported profits (Krieger et al. 2020). However, the economic fallout of the pandemic has compelled the corporate firms to drastically reduce dividends. The trend was in vogue across the globe (Wang and Guarino 2020), and Indian firms were no exception. The abolishment of DDT, Ceteris Paribus, was deemed to enhance the payouts by the Indian corporate firms, which earlier were discouraged or adjusted with share repurchase or bonus issues. However, amid dented profitability and cashflows of the firms across most sectors, coupled with uncertainty hovering in this milieu, the expectation of enhanced dividends associated with the elimination of DDT seems far-fetched. Given the drastic dividend cuts by the corporate pragmatism across the globe, COVID-19 is a unique event experienced from a dividend perspective. The changes in dividend policy amid COVID-19, and its consequences on companies’ performances and future dividends, is worth analyzing. The dividend distribution tax, albeit an essential element influencing dividend behavior, has not received much attention in the literature. Additionally, with the COVID-19 pandemic immediately following the Indian Financial Act 2020, the Indian corporate dividend behavior study is certainly worth exploring.

The present study examines the impact of the amended dividend tax and economic disruption of COVID on the dividend decision of Indian corporate firms. The study universe consists of the top 1000 non-financial firms, based on their market capitalization at BSE; inter se, 509 firms that have consistently distributed dividends from 2015 to 2019...
form the final sample. The study contributes to the literature by capturing the impact of DDT elimination along with the consequences of COVID. The study also examines the influence of financial determinants postulated by existing theories and literature on the dividend decisions of Indian firms.

We observed the impact of COVID to be significant and superseded the possibility of high payouts associated with DDT abolishment. Dented financials have perhaps compelled the regular payer, as well as the non-regular payer firms for significant dividend cuts or omissions. Regression results establish the free cash flows, profitability, investment opportunities, growth rates, past dividends, and firms’ sizes as significant determinants influencing the payouts of Indian firms, with free cash flows, profitability, growth rate, and investment opportunities as the negative predictors and lag dividends as positive predictors influencing the dividend payouts. Findings reflect conservatism in the payout behavior of firms. We have also noted the significant transformation of the positive association of leverage and payout to negative insignificant relationship, post 2016. Perhaps the recognition of preference share capital as debt under Ind AS-32, effective from 1 April 2016, has made the firms more risk-averse and sensitive towards leverage. Findings lend credence to the dominance of the Walter, signaling, and catering theories in the dividend behavior of Indian corporate firms.

The following section deals with the literature review and derivation of research variables and hypotheses followed by research design, empirical results, concluding observations and implications, and future directions.

2. Literature Review

A dividend decision is a crucial financial decision relating to the distribution of corporate earnings to the shareholders. The dividend is the reward that a shareholder receives from a company’s profits on his shareholding (Singhania and Gupta 2012). Theoretically, dividend policy, i.e., the amount of profit to be distributed and retained in the business, is at the pure discretion of management. Indeed, the dividend is a complex decision attributable to numerous factors. Extant literature is replete with empirical evidence and theories underpinning corporate dividend behavior (Livoreka et al. 2014). However, despite this extensively explored aspect, the literature remains inconclusive in unfolding the factors and theories reinforcing the firms’ payouts (Shetty and Rao 2020; Frankfurter and Wood 2002).

The present study captures the change in dividend policy of the Indian corporate firm’s impact on the DDT elimination amid the economic disruption COVID. Secondly, the study examines the association of the firms’ financial traits, corroborated by traditional theories and extant literature, on corporate dividend behavior. The relevant literature supporting the research variables and hypotheses is provided as follows.

2.1. Profitability

Profitability is a prime constituent and crucial determinant of dividend decisions of a company (Lintner 1956; Lambrecht and Myers 2012; Anil 2008; Al-Najjar and Kilincarslan 2017; Pruitt and Gitman 1991). Lintner (1956) has found the change in earnings level to be the prime contributor driving the changes in the firm dividend policy, barring the exceptional circumstances (Lintner 1956). Studies across regions and sectors posit a positive association between the firms’ profitability and dividend decisions (Banerjee and De 2015; Abdulkadir et al. 2016; Lotto 2020a; Dewasiri et al. 2019; Rój 2019; Mehta 2012). Profitable firms with large reserves and free cash flows are deemed to afford higher payouts (Danil et al. 2020).

2.2. Free Cash Flow

The dividend is the residual profit paid from the free cash flow available at the firm after meeting the CAPEX and working capital requirements (Baker et al. 1985). Therefore, liquidity is a crucial factor in influencing the dividend payout. Extant studies establish the fact (Suliman Al-Fasfus 2020; Budagaga 2018; Rifat et al. 2020; Le et al. 2019; Rajesh Kumar
and Sujit 2018; Chadha and Sharma 2015). Some studies suggest a positive relationship between the firm’s free cash flow and the dividend payout ratio (Baker and Weigand 2015; Rochmah and Ardianto 2020). In contrast, others posit a negative association between free cash flows and payouts (Utami and Inanga 2011).

Agency theory also associates dividends with free cash flows. The proponents of the agency theory postulate payouts as disciplinary moves to prevent the irrational spending of firms’ cash flows by the management, and empire-building in their narrow interests (John and Knyazeva 2006; Jensen 1999; Floyd et al. 2015; Driver et al. 2020). Management inertia for initiating dividends represents a unique agency concern (Smith and Pennathur 2019). The firms with free cash flows and low investment opportunities are more likely to attract agency conflicts (Jensen 1986; Wang 2010). Therefore, the firms countering agency problems are deemed to disseminate cash flows more promptly via dividend payouts, buybacks, or unproductive acquisitions (Jensen 1996).

2.3. Financing and Investment Decisions

Dividend, financing, and investment decisions are crucial corporate finance decisions which influence a firm’s value (Daas et al. 2020). The proponents of residual theory avow the dividend as a passive residual (Brav et al. 2005; Higgins 1972). Dividend policy, according to these authors, entails decisions relating to the distribution of the residual earnings among its shareholders (Rój 2019). Theoretically, the dividend is more of a financing decision determined by a firm’s investment requirements (Walter 1956; Brav et al. 2005). After meeting the investment requirements and adjusting the desired capital structure, residual earnings are distributed as dividends (Smith and Watts 1992; Miller and Modigliani 1961). Thus, the dividend disbursement to ordinary shareholders is contingent on the firm’s financing needs, the viable investment opportunities, and the growth rate (Ardestani et al. 2013). Research studies establish this fact.

2.4. Growth Rate

As per Walter’s model, the degree of appreciation in share value is allied with the proportion of earnings retained and their profitable utilization (Walter 1956). A firm with lucrative investment opportunities and the potential to earn higher returns can enhance its value by squeezing its payout to zero. Consequently, low dividend payout ratios constitute an accepted feature of growth stocks since the reinvestment into the business is presumed to be more beneficial for the shareholders. At the same time, high retention by low-earning firms may cause negative implications for share prices. Empirical studies corroborate the negative association between the firm’s growth rate and dividend payouts. The firms with good investment opportunities have been observed as low dividend payers, irrespective of their earnings levels (Le et al. 2019; Danil et al. 2020; Sharma 2020; Pahi and Yadav 2021; Rozeff 1982; Dixit et al. 2020; Lu et al. 2014; Fama and French 2001; Al-Kuwari 2010). The negative association between a firm’s growth rate and the propensity of payout is well supported by the agency (Al-Kuwari 2010) and the life-cycle theories (Bhattacharya et al. 2020; Yousef et al. 2021). Studies associate dividend policy with the firm’s life cycle (Dixit et al. 2020; Dewasiri et al. 2019; Labhane and Das 2015; Abdulkadir et al. 2016; Moon et al. 2015). The optimal dividend policy hinges upon the firm’s life stage (Bulan and Subramanian 2011); fluctuating cash flows and investment opportunities with a transition in the growth stage dominates the firm’s propensity of payout (Bhattacharya et al. 2020; Drobeta et al. 2015; Dickinson 2011). The mature companies with stable earnings, goodwill, and expertise maintain reasonable reserves and have better access to external capital market; therefore, they are more likely to pay dividends, compared to young firms with more investment avenues and constrained resources (Ranajee et al. 2018; El-Ansary and Gomaa 2012).
2.5. Leverage

Studies posit financial leverage as another crucial determinant influencing a firm’s payout policy (Tahir et al. 2020; Santhosh Kumar and Bindu 2018; Banerjee and De 2015; Hadian 2019). Firms with a low debt ratio are pragmatic in maintaining high payouts and vice-versa (DeAngelo and DeAngelo 2007; Labhane 2017; Lotto 2020b; Banerjee and De 2015). These findings are consistent across regions (Alam 2012; Labhane 2019b) and industries (Moon et al. 2015; Gakumo and Nanjala 2017). High-levered firms carry obligations to pay out cash in future periods, and thus have constrained cash flows for capital expenditures and dividends (Walter 1963). This mitigates agency problems (Chaleeda et al. 2019), and maintains ample liquidity to promptly honor the obligations under creditors’ pressure, or voluntarily compel the high-levered firms to maintain low payouts (Chevalier et al. 2020; Tse 2020).

2.6. Investors’ Expectation

Catering theory postulates dividend decisions instigated by investors’ preference for dividend payers in the market. Managers cater to investors by paying dividends when the market puts a premium on dividend-paying stocks (Baker and Wurgler 2004). Studies (Labhane 2020; Wang et al. 2016; Pieloch-Babiarz 2020; Lu et al. 2014; Bilel and Mondher 2020; Rochmah and Ardianto 2020) document the payout decision as positively associated with the premium that investors add on dividend-paying stocks.

For investors, dividends constitute a vital source of income and, therefore, a key component for evaluating stock price (Wang and Guarino 2020). At any time, the share price is contingent upon the investors’ expectations regarding the dividend stream, the terminal market price, supplemented with their system of weighting the possible outcomes per period and through time (Walter 1963). According to Gordon’s theory (Gordon 1959), investors expect a regular dividend income on their investment. Deferring dividends may invoke a sense of uncertainty among the investors, enhancing the likelihood of discounting the company’s share prices (Shetty and Rao 2020; Tiwari and Pal 2020; Simoes Vieira 2011). Studies observed the significant influence of a firm’s dividend payouts on market prices (Shetty and Rao 2020), price-earnings ratio, and shareholders’ wealth (Saraswat 2018; Sulistiono and Yusna 2020; Baskin 1989; Mehta et al. 2014).

Signaling and information hypotheses also link the payout policy with investors’ reactions (Miler and Rock 1985; Bhattacharya 1979). The decision to initiate and continue dividends possesses the predictive power to differentiate the share price returns of dividend-paying firms over non-dividend-paying firms (Labhane 2020). The dividend is expected to mirror the firm’s performance (Thaiyalnayaki and Reddy 2018). They are deemed to possess vital information about the distributing firm’s profitability and cash-flows (Fama and French 1998; Dionne and Ouederni 2011; Miklus and Oplotnik 2016; Lin and Lee 2021; Budagaga 2020). The dividend payout policy signals good news to investors (Tahir et al. 2020; Anand 2004). Studies document the dominance of signaling theory in a firm’s dividend behavior (Baker et al. 1985; Batabyal and Robinson 2017; Daniels et al. 1997; Taleb 2019).

Managers implicitly assume dividends as unbiased signals of the firm’s financial health and prospect to the investors. A decrease in payouts is expected to foreshadow a decline in the firm’s prospects (Krieger et al. 2020). Studies examine the expected future earnings and pattern of past dividends as significant predictors affecting the firm’s payout decisions (Qamar et al. 2014; Baker and Weigand 2015; Budagaga 2018). Corporate firms are often reluctant to deviate from the past dividends and are persistent with dividend smoothing (Mahenthiran et al. 2020; Qamar et al. 2014). Firms combating volatile earnings and high business risk, therefore, generally prefer low payouts to restore financial flexibility (Lambrecht and Myers 2012; Pinto and Kastogi 2019; Alekneviciene et al. 2015; Poulsen et al. 2013; Fliers 2019; Pruitt and Gitman 1991; Krieger et al. 2020; Loukil 2020; Agrawal 2020).
2.7. Environment

Studies associate the change in the dividend behavior of the firms with the changing environment-market, political, industry, and regulatory conditions (Ranajee et al. 2018; Rifat et al. 2020; Loukil 2020; Hamed Al-Yahyaeet al. 2010; Bilel and Mondher 2021; Wang and Guarino 2020). In an Indian study, Banerjee and Das found payouts of pre-recession to be positively associated with assets’ growth rates and profitability, and payouts of the post-recession period with profitability and financial leverage (Banerjee and De 2015). A comparative study of emerging market and U.S. firms (Anjali and Raju 2017) reports identical dividend behavior of firms across regions, with a significant difference in dividend determinants of U.S. firms and the emerging market. They found the U.S. firm’s payouts to be more sensitive to profitability, debt, and the market-to-book ratio. In emerging economies, the asset mix is found to be more dominant due to more reliance on bank debt. An Indian study (Pandey 2007) substantiates the underdeveloped financial system to be responsible for the low payout of Indian firms. Other studies also corroborate regional factors as essential determinants influencing dividend policies (Aivazian et al. 2003). Recent studies have explored the impact of the COVID-19 pandemic on corporate dividend behavior (Adehi and Maijamaa 2020; Wang and Guarino 2020; Pettenuzzo et al. 2020; Krieger et al. 2020; Cejnek et al. 2020). Studies reveal significant dividend omissions amid the economic disruption of COVID. These findings are consistent across regions and sectors.

2.8. Taxes

As per Modigliani and Miller’s irrelevance theories of capital structure (Modigliani and Miller 1958) and dividends (Miller and Modigliani 1961), the capital structure and dividends are irrelevant decisions for a firm’s value in a world of no taxes. Tax is an integral part of the economic policies of any economy; therefore, it is a potentially vital consideration influencing corporate decisions (MacKIE-Mason 1990). The dividend tax affects a firm’s value (Fama and French 1998; Karjalainen et al. 2020; Aggarwal and Tiwary 2019). The corporate tax rate and dividend distribution tax act as the discouraging factors for dividend distribution. The primary effect of taxes results from their impact on the magnitude of net earnings, which is a primary determinant of the volume of dividends (Lintner 1956). The increase in corporate tax rates reduces earnings after tax, weakening the companies’ ability to pay dividends (Singla and Samanta 2019). The DDT is levied on the after-tax income distributed to the shareholders as a dividend; this involves taxing the already taxed income and enabling shareholders to be paid the after-tax (DDT tax) amount of the actual dividend distributed by the company (Datta et al. 2014). The adverse tax implication of the DDT raises the dividend puzzle as to why management distributes dividends (Al-Najjar and Kilincarslan 2019; Dewasiri Narayanage and Yatiwella 2016; Black 1996). The mystery of dividend payments, albeit with unfavorable tax implications, remains inconclusive, with extant literature manifesting signaling, agency redressal, clientele effect, earnings quality management (Ajay and Madhumathi 2015), corporate governance (Rajput and Jhunjhunwala 2019; Nguyen et al. 2021; Pahi and Yadav 2021), ownership structure (Basu and Sen 2015; Rajverma et al. 2019), group affiliation (Labhane and Mahakud 2019), and many more justifications for dividend payments (Dewasiri Narayanage and Yatiwella 2016; Goyal 2019).

Nevertheless, the influence of the dividend tax on dividend policy cannot be overlooked. Studies establish the influence of change in capital gain and dividend taxes on corporate dividend policies (Blouin et al. 2011). The study of private companies in Finland by (Karjalainen et al. 2020) documents the willingness to pay tax-exempted dividends and avoid unnecessary company income tax as crucial elements guiding earnings management. In a study of Canadian firms (Deslandes et al. 2015), the reduction in DDT is found to have a favorable implication on firms’ payouts. Findings report an increase in a firm’s payouts following a tax cut; the increase was more significant for the firms where the reduced tax rate was favorable for the shareholders. Indian economy studies have established similar
findings; the study by (Pahi and Yadav 2021) found DDT to be a suppressing factor for dividend distribution. Labhane (2018) noticed high dividend distribution taxes imposed by the government to be the reason for more dividend smoothening by Indian corporate firms.

2.9. DDT Elimination in India and Dividend-Payout

The Indian economy is among the fastest-growing emerging markets and has undergone regulatory changes from time to time to make it more independent, transparent, and pro-investment. With the increased market capitalization and vast shareholders base, corporate policies have always been under the close surveillance of the Indian regulators. With the increase in the institutional investors, in the February 2020 budget, the Finance-minister announced the abolishment of the dividend distribution tax, effective from 1 April 2020.

Before 1997, India followed the classical tax system. Following in the footsteps of the western economies, the DDT was introduced in 1997. Since then, the DDT rate has undergone consistent changes (Refer Table 1). Under the old regime (before F.Y. 2020), the DDT rate was 17.65% and effectively 20.56% including the surcharge and cess 20.56% including the surcharge and cess, enabling the shareholders to receive hardly 80 percent value of the actual dividend amount distributed by the Companies. The abolishment of DDT, prima facie, is an encouraging factor for dividend distribution by Indian corporate firms. With the exception of the institutional investors, large shareholding groups, and the recipients who fall into the high income tax slab, the new regime seems to be a win–win situation for the distributing companies, as well as the recipient shareholders.

However, given the aftermath of the pandemic, where the majority of industries suffered dented productivity, profitability, cash flows, and sustainability challenges in the new normal, the possibility of an enhanced payout expected due to DDT elimination seems far-fetched. This paper examines the changes in the payout policies of Indian corporate firms following DDT elimination under the Financial Act 2020, amid the economic disruption of COVID. Additionally, it investigates the impact of firms’ financial traits, corroborated by existing theories and empirical literature, on the dividend behavior of regular and irregular dividend payers.

The following section details the research design, variables extraction, research models, data collection, and sample firms.
| Variables | Underlying Theories                                                                 | Proxy Measures | Formula                                                                 | References                                                                 | Factor Loadings |
|-----------|------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------|
| Profitability | Studies by (Lintner 1956; Fama and French 2001); Residual dividend theory; Modigliani Irrelevance theory (Miller and Modigliani 1961); Walter Theory (Walter 1963); Gordon Theory (Gordon 1959) | EBITDA | Earnings before interest, taxes, depreciation and amortization | (Jiraporn and Chintrakarn 2009; Edgerton 2013) | 0.898 |
|          |                                                                                    | EBITDAMargin | EBITDA margin = EBITDA/Net sales                                      | (Labhane and Mahakud 2018; Fama and French 2001)                          | 0.847 |
| Liquidity | Free cash flow theory signaling (Lang and Litzenberger 1989)                       | C.F.          | Cash flows = EBITDA Interest Taxes Dividend paid                      | (Dewasiri et al. 2019; Labhane and Das 2015)                              | 0.889 |
|          |                                                                                    | FCF           | Free cash flows = Cashflows*(1/Total Assets)                         | (Dewasiri et al. 2019; Lang and Litzenberger 1989; Suliman Al-Fasfus 2020) | 0.810 |
| Leverage | Residual theory (Lintner 1956; Baker and Weigand 2015)                             | Debt-equity   | Debt-equity ratio = Total debt/Total equity                           | (Singla and Samanta 2019; Dewasiri et al. 2019; Banerjee and De 2015; Danil et al. 2020) | 0.943 |
| Size/tangibility | Agency theory, studies by (Endri and Fathony 2020; Lunapow and Tumiwa 2017) | LogTA   | Natural log of total assets                                           | (Dewasiri et al. 2019; Le et al. 2019)                                    | 0.894 |
|             |                                                                                    | Networth      | Net worth Book value per share                                        | (Jiang and Stark 2013)                                                    | 0.972 |
| Growth rate | Walter theory (Walter 1963; Ismail et al. 2018)                                    | ROTA          | EBITDA/TA                                                             | (Jensen et al. 2010)                                                      | 0.811 |
|             |                                                                                    | MBV           | Market-to-book value ratio = Market capitalization/Net worth          | (Labhane 2019b; Smith and Watts 1992; Benavides et al. 2016; Walter 1963; Lahiri and Chakraborty 2014) | 0.776 |
| Tax rate   | Clientele effect (Bloquin et al. 2011; Allen et al. 2000)                          | Tax           | Provision for tax/Profit before tax                                   | (Labhane 2019a; Allen et al. 2008; Bloquin et al. 2011; Ismail et al. 2018) | 0.947 |
| Dividend premium | Catering theory (Baker and Wurgler 2004; Bilel and Meesber 2021)                  | MBV           | Market capitalization/Net worth                                       | (Baker and Wurgler 2004; Labhane 2019a; Stern and Willett 2019)            | |
| Lag dividend | Signaling theory (Labhane 2018; Wu 2018)                                          | LagDiv        | LagDiv = DivPer_t−1                                                  | (Dewasiri et al. 2019; Dinh and Yen 2018; Qamar et al. 2014; Baker et al. 2019; DeAngelo et al. 2006) | |
3. Research Methodology

3.1. Objectives

The study explored the changes in the payouts of Indian corporate firms, consequent to DDT elimination effective from 1 April 2020. It also examined the financial determinants of the changing payout behavior.

3.2. Sample Firms and Data

The top 1000 listed firms, based on their market capitalization at BSE India, formed the universe of the study. For the analysis, the non-financial firms, which have consistently paid a dividend during the Years 2015 to 2020, were considered. The sample was further sub-divided into regular and non-regular payers. Firms were categorized as regular payers if they have consistently maintained stable or increasing payouts from 2015 to 2019. The total sample consisted of 509 firms, including 65 regular payers (details contained in Appendices A and B).

3.3. Variables of the Study

3.3.1. Dependent Variables and the Proxy Measures Used

To examine the dividend behavior of sample firms, dividend payouts, calculated as the percentage of dividend paid over earnings after-tax, were used as proxy measures for dividend policy. The measure was used in earlier studies by (Labhane 2019b; Dewasiri et al. 2019). The dividend payout ratio and dividend yield were widely accepted as measures of dividend policy. However, with the pandemic-induced exacerbation of stock prices, dividend yields were expected to exhibit a distorted view and were therefore excluded from the analysis. The study used the annual observations of dividend payout percentages.

For analyzing the impact of DDT and COVID-19 pandemic, the direction of increases and decreases in, cuts to, and the omission of, dividend payouts were considered, as used by Krieger et al. (2020). Firms were classified (via an indicator variable DivCut) as enacting a dividend cut when the dividend payout percentage in the year \(t\) declined relative to the previous year \(t-1\); \(\text{DivCut} = 0\), if the change in the \(\text{DivPer} \geq 0\); otherwise, 1.

3.3.2. Independent Variables

Extant literature confirmed the association of the firm’s financial traits with corporate dividend behavior. The firm’s financial fundamentals, corroborated by empirical literature as predictors of dividend decisions, were examined through factors analysis to extract the dependent variables for the study. Upon running the exploratory factor analysis varimax rotation approach on 25 variables, we obtained eight representative variables. The variables with the highest factor loadings and deemed reasonable to affect dividend decisions were used for the analysis. Other than the extracted variables, the study also examines the impact of the lag dividend as the independent variable. Appendix C contains the results of the factors analysis. Table 1 enlists the dependent variables, the underlying theories, factor loadings, and formulae used for measuring the variables, respectively.

Explanatory variables potentially predictive of dividend change, cuts or omissions: free cash flows, profitability, leverage, market premium, growth rates, firm size, log assets, market capitalization, and sales were used to analyze the change in dividends and dividend cuts. Earlier studies (Krieger et al. 2020; Fama and French 2002; Brav et al. 2005) used these controls.

3.4. Research Model

To assess the direction of dividend change, the frequency and magnitude of dividend increase, decrease, cuts, and omission were reviewed from 2015 to 2021. To capture the influence of DDT changes (effective from 1 April 2020 onwards), the dividend payouts from 1 April 2020 onwards were considered as payouts of the year 2021. The statistical significance of changes in the dividend payout (DivPer) and DivY (Dividend yield) of 2020,
2021, and pre-2020 periods (the average of the years 2015 to 2019) were examined using a paired sample t-test.

Further, using panel data regression analysis, the determinants of dividend payouts, changes in payouts, and dividend cuts were examined. The panel data analysis was an effective approach for analyzing cross-sectional data. It aided in incorporating the effects of unobservable firm-specific and time-specific variables, along with quantifiable factors. It was a robust approach to deal with data heteroskedasticity (Wooldridge 2013). This method was extensively used in earlier studies (Bostanci et al. 2018; Kajola et al. 2015; Pinto and Rastogi 2019; Labhane and Das 2015).

Due to the shortness of the panel, the study used linear panel models with fixed effects. To capture the impact of the pandemic and DDT elimination, two dummy variables, dummy 2020 and dummy 2021, were used.

The regression models represented by Equations (1) and (2) were used to analyze the determinants of dividend payouts, changes in payout, and dividend cuts.

\[
\text{Model 1}: \text{DivPer}_{i,t} = \alpha_{i,t} + \beta_1\text{EBITDA}_{i,t} + \beta_2\text{LogTA}_{i,t} + \beta_3\text{BVS}_{i,t} + \beta_4\text{CF}_{i,t} + \beta_5\text{FCF}_{i,t} + \beta_6\text{ROTA}_{i,t} + \beta_7\text{MBVR}_{i,t} + \beta_8\text{DE}_{i,t} + \beta_9\text{EBITDAR}_{i,t} + \beta_{10}\text{Tax}_{i,t} + \beta_{11}\text{LagDiv}_{i,t} + \epsilon_{i,t}
\]

Equation (1) identified the association of firm financial traits (mentioned in Table 1) on dividend payout:

\[
\text{Model 2}: \text{DivPer}_{i,t} = \alpha_{i,t} + \beta_1\text{Dummy2020}_{i,t} + \beta_2\text{Dummy2021}_{i,t} + \beta_3\text{FCF}_{i,t} + \beta_4\text{EBITDAMargin}_{i,t} + \beta_5\text{ROTA}_{i,t} + \beta_6\text{LogTA}_{i,t} + \beta_7\text{LogMcap}_{i,t} + \beta_8\text{LogSales}_{i,t} + \beta_9\text{MBVratio}_{i,t} + \beta_{10}\text{DE}_{i,t} + \epsilon_{i,t}
\]

Equation (2) assessed the predictors of change in dividend payout and dividend cuts. Factors potentially predictive of dividend change, cuts and omissions: free cash flows, profitability, leverage, market premium, growth rates, log assets, market capitalization, and sales, formed the explanatory variables in Equation (2).

For analyzing the dividend cuts, firms enacting a dividend cut were classified via an indicator variable DivCut; DivCut = 1, if ChgDivPer < 0; otherwise 1:

- Dummy2020 = Dummy variable for year 2020;
- Dummy2021 = Dummy variable for year 2021;
- DivPer_{i,t} = Dividend payout percentage of firm i at time period t;
- EBITDA_{i,t} = Earnings before interest, taxes, depreciation and amortization;
- LogTA_{i,t} = Natural log of total assets;
- BVS_{i,t} = Book value per share;
- CF_{i,t} = EBITDA interest taxes dividend;
- FCF_{i,t} = CF*1/Total assets;
- ROTA_{i,t} = EBITDA/Total assets;
- MBVR_{i,t} = Proxy of market premium = Market cap/Net worth;
- DE_{i,t} = Debt–equity ratio = Total debt/Equity funds;
- EBITDAR_{i,t} = EBITDA/Net sales;
- Tax_{i,t} = Corporate tax rate = Provision for taxes/Earnings before taxes;
- LagDiv_{i,t} = DivPer_{i,t−1};
- \epsilon_{i,t} = Error term;
- DivCut = Dummy variable for dividend cut;

If DivPer of firm i for time period t < DivPer of t − 1, then DivCut = 1; otherwise, 0.

4. Empirical Findings
4.1. Impact of the DDT Elimination under Finance Act 2020 on the Corporate Dividend Behavior

Table 2 exhibits the paired sample t-test conducted to assess the difference between the dividend payout and yield of the F.Y. 2020–21 and the preceding years. The findings corroborate significant changes in the corporate dividend behavior in the years 2021 and 2020 vis-à-vis pre 2020 years. Significant t-values authenticate the dividend payout of the years 2020 and 2021 to be significantly different from the pre 2020 period; however,
there seems to be no substantial difference in the payout percentage of 2021 and 2020. As expected, due to the pandemic-induced exacerbation of stock prices, results exhibit a significant difference in the dividend yield of 2020 vis-a-vis the 2021 and pre 2020 periods.

### Table 2. Results of paired sample t-test of dividend payouts and dividend yield for the years 2021, 2020 vis-à-vis pre 2020.

| Pairs | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | t    | df | Sig. (2-Tailed) |
|-------|------|----------------|-----------------|------------------------------------------|------|----|----------------|
|       |      |                |                 |                                          |      |    |                |
| DivPer21–DivPer20 | 29.06 | 896.32         | 48.33           | −66.00–124.11                           | 0.60 | 343|                |
| DivPer21–Pre2020DivPer | 87.87 | 529.86         | 28.20           | 32.40–143.33                            | 3.12 | 352| ***           |
| DivPer20–Pre2020DivPer | 72.05 | 707.07         | 33.26           | 6.69–137.41                             | 2.17 | 451| **            |
| DivY21–DivY20    | −1.21 | 3.71           | 0.16            | −1.54–0.89                              | −7.37| 507| ***           |
| DivY21–Pre2020DivY | −0.04 | 1.79           | 0.08            | −0.20–0.12                              | −5.00| 471|                |
| DivY20–Pre2020DivY | 1.17  | 3.56           | 0.16            | 0.85–1.49                               | 7.13 | 470| ***           |

*** Significant at 1%; ** Significant at 5%. DivPer21 = Dividend payout for the year 2021; DivPer20 = Dividend payout for the year 2020; Pre2020DivPer = Average payout from 2015 to 2019; DivY21 = Dividend yield for the year 2021; DivY20 = Dividend yield for the year 2020; Pre2020DivY = Average yield of 2015 to 2019.

Tables 3–5 exhibit the direction of the dividend payouts over the last six years (2015 onwards). Table 3 and Figure 2 document the number and proportions of firms enacting increases, decreases, or omissions in payouts. As portrayed in Figure 2, there are no dividend cuts by Indian corporate firms, except for the years 2020 and 2021.

The statistics of dividend cuts and omissions reflect firms’ payout sensitivities to the change in tax regimes and the economic environment. As provided, there seems a considerable decline in the number of payers’ firms and the upsurge in the dividend-cutting firms from 2018 onwards (Table 4). The dividend-reducing firms, which were below 20 percent till 2017, elevated to 45 percent in 2018. Perhaps, bringing the deemed dividend under the ambit of DDT, effective from 1 April 2018 (as per the Finance bill, 2018), which was hitherto taxable in the recipients’ hands, is the reason for this declined payout.

The elimination of DDT, effective from 1 April 2020, was envisaged to enhance the payouts by the Indian firms. However, contrary to the expectations of enhanced dividends associated with the DDT elimination, the data manifest an increasing pattern of dividend cuts from 2020 onwards for the regular, as well as the irregular, payers. The F.Y. 2020 shows a considerable spike in the dividend cuts by the regular and irregular payers. Eighty percent of the regular payers, consistently following a stable or increasing payout pattern from 2015 onwards, endorsed dividend reduction or entire omissions in 2020. Perhaps, the changing industry dynamics and sustainability challenges in this milieu compelled the management to retain the surplus cash and restore financial flexibility (Table 5).

Table 5 exhibits the dividend cuts observed across the sectors from 2015 to 2021. There seems to be an increasing pattern of dividend cuts from 2018 onwards. The COVID-affected years (2020 and 2021) unveil a spurt in dividend cuts across all the sectors, with the service industry being the most affected. The dividend cuts enacting service sector firms, which were limited to 45 percent by 2020, rose above 60 percent during 2020. Perhaps, the changing industry dynamics and sustainability challenges in this milieu compelled the management to retain the surplus cash and restore financial flexibility (Table 5).

From these findings, it is reasonable to conclude that the impact of COVID has been devastating for the Indian corporate sector. The restrictive economic activities and inflicted financials and sentiments, have instigated drastic dividend cuts by the firms, which have ignored their past practices, as well as investors’ expectations, and tax advantages associated with the eliminated DDT.
### Table 3. Trend of changes in the dividend payout.

| Year    | Increase | Decrease | Stable | Omission | Dividend Cut% (Omission + Decrease) |
|---------|----------|----------|--------|----------|-------------------------------------|
| **Consistent payers post 2015 (65)** |          |          |        |          |                                     |
| Year 2021 | 14       | 9        | 15     | 27       | 55.38%                              |
| Year 2020 | 13       | 33       | 1      | 18       | 78.46%                              |

**Changes in payouts 2021**

| Payers 2020 (244) | 68       | 112      | 13     | 51       | 48.77%                              |
| Payers 2019 (281) | 96       | 54       | 41     | 90       | 66.19%                              |
| Payers 2018 (277) | 64       | 65       | 45     | 103      | 60.29%                              |
| Payers 2017 (415) | 143      | 93       | 55     | 124      | 64.34%                              |
| Payers 2016 (410) | 142      | 88       | 55     | 125      | 65.12%                              |
| Payers 2015 (419) | 140      | 87       | 60     | 132      | 64.92%                              |

**Changes in payouts 2020**

| Payers 2019 (281) | 106      | 140      | 2      | 33       | 49.47%                              |
| Payers 2018 (277) | 114      | 115      | 5      | 43       | 56.68%                              |
| Payers 2017 (415) | 189      | 174      | 7      | 45       | 56.39%                              |
| Payers 2016 (410) | 184      | 170      | 9      | 47       | 56.34%                              |
| Payers 2015 (419) | 188      | 175      | 8      | 48       | 56.32%                              |

**Changes in payouts 2019**

| Payers 2018 (277) | 97       | 161      | 19     | 0        | 58.12%                              |
| Payers 2017 (415) | 184      | 193      | 38     | 0        | 46.51%                              |
| Payers 2016 (410) | 192      | 186      | 32     | 0        | 45.37%                              |
| Payers 2015 (419) | 202      | 179      | 38     | 0        | 42.72%                              |

**Changes in payouts 2018**

| Payers 2017 (415) | 212      | 192      | 11     | 0        | 46.27%                              |
| Payers 2016 (410) | 214      | 184      | 12     | 0        | 44.88%                              |
| Payers 2015 (419) | 217      | 192      | 10     | 0        | 45.82%                              |

**Changes in payouts 2017**

| Payers 2016 (410) | 198      | 77       | 135    | 0        | 18.78%                              |
| Payers 2015 (419) | 199      | 74       | 146    | 0        | 17.66%                              |

**Changes in payouts 2016**

| Payers 2015 (419) | 208      | 71       | 140    | 0        | 16.95%                              |

Consistent payers represent the sample firms with increasing or stable dividends from 2015 to 2019. Payers represents the firms that have paid increasing or stable dividends in the suffix year.

### Table 4. Pattern of dividend cuts 2015 onwards.

| Years | Number of Firms | Minimum | Maximum | Mean | Std. Deviation | Variance |
|-------|----------------|---------|---------|------|----------------|----------|
| 2021  | 164            | −0.99   | −0.04   | −0.65| 0.27           | 0.70     |
| 2020  | 280            | −1.00   | −0.07   | −0.74| 0.27           | 0.07     |
| 2019  | 228            | −1.00   | −0.04   | −0.64| 0.27           | 0.07     |
| 2018  | 232            | −0.99   | −0.02   | −0.68| 0.25           | 0.06     |
| 2017  | 94             | −0.91   | −0.02   | −0.45| 0.23           | 0.05     |
| 2016  | 99             | −0.97   | −0.04   | −0.39| 0.24           | 0.06     |
| 2015  | 90             | −0.97   | −0.01   | −0.39| 0.24           | 0.06     |
Table 5. Dividend cut trends (2015) onwards across sectors.

| Industry       | Number of Companies | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 |
|----------------|---------------------|------|------|------|------|------|------|------|
| Manufacturing  | 298                 | 157  | 134  | 135  | 137  | 57   | 53   | 50   |
| Service sector | 108                 | 57   | 63   | 47   | 45   | 27   | 27   | 21   |
| FMCG           | 32                  | 19   | 12   | 8    | 6    | 5    | 1    | 2    |
| Infrastructure | 18                  | 11   | 9    | 6    | 5    | 1    | 2    |      |
| Realty         | 17                  | 10   | 11   | 5    | 6    | 2    | 6    | 4    |
| Diversified    | 9                   | 5    | 3    | 6    | 6    | 1    | -    | 2    |
| Trading        | 9                   | 4    | 3    | 2    | 4    | -    | 4    |      |
| Agri           | 7                   | 3    | 3    | 2    | 3    | -    | 2    | 2    |
| Diamond & Jewellery | 3             | 2    | 1    | 1    | 1    | -    | 1    |      |
| Electricals    | 4                   | 2    | 3    | 1    | 1    | -    | -    | 1    |
| Aviation       | 2                   | 1    | 2    | 1    | 2    | -    | -    | 1    |
| Miscellaneous  | 2                   | 1    | 1    | 2    | -    | -    | -    |      |
| **Total**      | **509**             | **272** | **245** | **228** | **231** | **94** | **98** | **89** |
| **DivCut%**    | **53%**             | **48%** | **45%** | **45%** | **18%** | **19%** | **17%** |      |

Figure 2. Changing pattern of Indian corporate payout since 2015.

4.2. Determinants of Changing Dividend Behavior

4.2.1. Determinants of Dividend Payout

This study attempts a regression analysis to trace the association of a firm’s financial traits (provided in Table 1) on their dividend payouts. Table 6 documents the parameter estimates computed as per Equation 1. The R-square value (0.75) authenticates the three-fourths influence of the explanatory variables in explaining the variance in the dividend payouts of the sample firms analyzed. Model findings confirm the firm’s size, MBV ratio, and past dividends as the positive predictors of dividend payouts. At the same time, the firm’s free cash flows and EBITDA margin are discerned as significant negative predictors influencing payouts (Table 6).
### Table 6. Determinants of dividend payouts.

| Variable       | Coefficient | Std. Error | Significance |
|----------------|-------------|------------|--------------|
| C              | −282.12     | 54.864     | ***          |
| EBITDA         | −0.004      | 0.002      | *            |
| LOGTA          | 44.558      | 6.89       | ***          |
| BVS            | 0.076       | 0.046      | *            |
| CFPS           | −0.001      | 0.001      | *            |
| FCFS           | −2.807      | 0.346      | ***          |
| MBVRATIO       | 10.973      | 4.061      | ***          |
| DEBTEQUITY     | −4.263      | 3.319      | ***          |
| EBITDAMARGIN   | −5.692      | 1.559      | ***          |
| TAXRATE        | 0.479       | 0.568      | ***          |
| LAGDIV         | 0.092       | 0.035      | ***          |

### Effects Specification

Cross-section fixed (dummy variables)

Root MSE 254.141  R-Squared 0.75
Mean dependent var. 209.583  Adj. R-Squared 0.71
S.D. dependent var. 508.104  S.E. of regression 274.95
Akaike into criterion 14.205  Sum squared resid 230,125,535.8
Schwarz criterion 15.205  Log likelihood −24,787.18
Hannan–Quinn criterion 14.526  F-statistic 17.61
Durbin–Watson stat. 1.913  Prob(F-statistic) 0

Dependent Variable: DIVPER
Method: Panel Least Squares
Sample 2015–2021
Periods included: 7
Cross-sections included: 509
Total panel (balanced) observations: 3563
White period standard errors & covariance (d.f. corrected)

Appendix D shows the segregated year-wise regression results from 2015–2021. Findings validate the assumed financial predictors to be significantly associated with the dividend behavior of the corporate firms. The FCF, lag dividend, growth rate, firms’ sizes, and book values are prime factors pervasive in most of the years. All of the years portray the significant negative association of FCF and the positive influence of lag dividends on the dividend payouts, thus, lending credence to the conservative payout behavior of the firms with the dominance of catering theory.

It is worth mentioning that the Lag dividend and MBV, which consistently appear as significant positive predictors of dividend payouts in all the years, have been discerned as insignificant during the year 2020. The findings narrate the severity of the economic consequences of COVID-19 on the firm’s financials and sentiments that compelled them to make dividend cuts, circumventing their past practices.

Findings also unearthed the changes in the leverage and dividend payout relationship after 2015. The debt–equity ratio, which seemingly shared a significant positive association with payouts during 2015, appeared to be a negative and irrelevant predictor in later years. The negative association of the debt–equity ratio with payouts reflected the risk-averse behavior of the management. Firms with a high leverage preferred low payouts to restore financial flexibility (DeAngelo and DeAngelo 2007; Banerjee and De 2015; Agrawal 2020). It was possible that firms utilized debt proceeds for paying dividends in 2015. The transition in the leverage and dividend payout association from positive to negative from 2016 onwards was due to the influence of the Indian Accounting Standards 32 (Ind AS 32), enacted in April 2016 on all listed and non-listed companies exceeding a net worth of INR 5 billion. The new standard directs recognized redeemable preference shares (RPS) as debt capital, which earlier were deemed a part of a firm’s equity. The AS 32 also mandated disclosing the debt component of Optionally Converted Preference...
Shares (OCPS) in the balance sheet. Preference shares were a flexible source of financing for the highly levered firms. Paying fixed preference dividends enabled the firms to restore their financial flexibility without diluting their equity control and maintaining optimal leverage. However, the AS-32 impeding the management liberty of channeling the RPS and OCPS, which diluted their debt–equity ratio, compelled the highly levered companies to cautiously utilize debt capital. Plausibly, the firms using debt funds for payouts up until 2015 became risk-averse post AS 32 enforcements.

Given the significant dividend cuts and omissions observed by the regular payer firms in 2020 and 2021 (Table 3), this study examined the payout predictors of regular payers. Here, the regular payers represented the firms that persistently followed a stable or step-up dividend payout from 2015 to 2019. Table 7 documents the key results. R-square value substantiated a ninety-five percent influence on explanatory variables in explaining the variance in the dividend behavior of the regular payers. Results corroborated the dividend payout of regular payers to be positively related to cash flows and lag dividend and negatively with EBITDA margin and free cash flows. Findings lent credence to conservative payout policy followed by regular payers with more inclination towards retaining the profits of businesses. The positive relationship between the cash flow and dividend payout exhibited the dominance of agency concern in dividend payout decisions (Table 7).

Table 7. Determinants of dividend payout of regular dividend payers.

| Variable      | Coefficient | Std. Error | Sig. |
|---------------|-------------|------------|------|
| C             | 114.311     | 86.793     |      |
| EBITDA        | 0.006       | 0.006      |      |
| LOGTA         | −8.939      | 14.81      |      |
| BVS           | 0.036       | 0.023      |      |
| CFS           | 0.004       | 0.001      | *** |
| FCFS          | −294.114    | 134.497    | **  |
| MBVRATIO      | −0.156      | 0.121      |      |
| DEBT/EQUITY   | −19.681     | 11.395     | *    |
| EBIT/DA/MARGIN| −23.265     | 13.185     | *    |
| TAXRATE       | −18.859     | −18.954    | 0    |
| LAGDIV        | 0.672       | 0.265      | **  |

Effects Specification

Cross-section fixed (dummy variables)

| Root MSE | R-Squared | 0.956 |
| Mean dependent var. | 172.501 | Adj. R-Squared | 0.946 |
| S.D dependent var. | 472.029 | S.E. of regression | 109.841 |
| Akaike into criterion | 12.399 | Sum squared resid | 4,065,918.282 |
| Schwarz criterion | 13.131 | Log likelihood | −2479.211 |
| Hannan–Quinn citer. | 12.689 | F-statistic | 98.016 |
| Durbin–Watson stat. | 2.285 | Prob(F-statistic) | 0 |

Dependent Variable: DIVPER
Method: Panel Least Squares
Sample 2015–2021
Periods included: 7
Cross-sections included: 65
Total panel (balanced) observations: 412
White period standard errors & covariance (d.f. corrected)

4.2.2. Determinants of Changing Dividend Payouts and Dividend Cuts

This study explored the determinants of changing payouts using Equation (2). The Dummy 2020 and Dummy 2021 exhibited dummy variables used to capture the influence of the years 2020 and 2021. Table 8 portrays the results of the panel regression run with fixed
effects. Findings showed dividend payouts to be significantly positively associated with firms’ sizes (represented by Log TA) and MBV ratios, and negatively with FCF and EBITDA margins. Dividend payouts of regular payers were found to be negatively associated with FCFs, and positively with Log Mcap. The results authenticated the influence of the pandemic and possibly the DDT elimination (implemented from April 2021 onwards) on the payouts of the sample firms. The findings showed that the years 2020 and 2021 were significantly associated with the changing payouts. For the regular payers, the year 2021 was negatively associated with payout (Table 8).

Table 8. Determinants of changing payouts (results of panel regression with cross-section-fixed and panel-clustered heteroskedasticity).

| Variable          | Coefficient | Std. Error | Sig. | Coefficient | Std. Error | Sig. |
|-------------------|-------------|------------|------|-------------|------------|------|
| **All Firms**     |             |            |      |             |            |      |
| C                 | −290.686    | 62.049     | ***  | 223.549     | 210.142    |      |
| DUMMY2020        | 44.167      | 16.95      | ***  | 20.938      | 22.475     | **   |
| DUMMY2021        | 49.717      | 27.817     |      | −35.076     | 17.433     | ***  |
| FCFS              | −3.236      | 0.228      | ***  | −541.842    | 90.132     |      |
| EBITDAMARGIN      | −6.065      | 2.577      | **   | 33.176      | 33.437     |      |
| ROTA              | 231.836     | 179.373    |      | −538.501    | 406.11     |      |
| LOGTA             | 45.83       | 12.061     | ***  | −51.485     | 51.005     |      |
| LOGMCAp           | −7.63       | 7.891      |      | 10.912      | 5.949      | **   |
| LOGSALES          | 5.693       | 7.891      |      | 40.636      | 36.002     |      |
| MBVRATIO          | 8.685       | 4.184      | **   | −0.065      | 0.092      |      |
| DEBTEQUITY        | −4.12       | 3.094      |      | −56.923     | 30.335     | *    |
| **Regular Payers**|             |            |      |             |            |      |

Effects Specification

| Cross-section fixed (dummy variables) |
|--------------------------------------|
| Root MSE: 258.320                    | 173.823 |
| Mean dependent var.: 209.583         | 172.495 |
| S.D. dependent var.: 508.104         | 471.456 |
| Akaike into criterion: 14.238        | 13.517  |
| Schwarz criterion: 15.138             | 14.248  |
| Hannan–Quinn criter.: 14.598         | 13.806  |
| Durbin–Watson stat.: 1.878           | 2.628   |
| R-Squared: 0.741                     | 0.864   |
| Adj. R-Squared: 0.697                | 0.834   |
| S.E.of regression: 279.475           | 192.143 |
| Sum squared resid: 237,755,377,389    | 12,487,548,679 |
| Log likelihood: −24,845,283           | −2716.291 |
| F-statistic: 16.853                   | 28.952  |
| Prob(F-statistic): 0.000              | 0.000   |
| Cross-sections included: 509          | 65      |
| Total panel (balanced) observations: 3563 | 413     |

Dependent Variable: DIVPER
Method: Panel Least Squares
Sample 2015–2021
Periods included: 7
White period standard errors & covariance (d.f. corrected)

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

This study further examined the predictors of dividend cuts. Table 9 exhibits the key results. Findings portrayed dividend cuts as positively associated with FCF and negatively with ROTA, Log TA, and MBV ratio. Prima facie, these results corroborate the management’s emphasis on utilizing the payout policy as a signal to control investor sentiments. The positive association of FCF with dividend cuts unveiled the management’s reluctance to disseminate the free cash flows as a dividend. However, to suppress the negative signal of low growth and associated adverse investors’ reactions, the Indian
corporate firms tried to avoid dividend cuts. The negative relationship between MBV and divided cuts signaled the prevalence of catering theory in the payout behavior of Indian corporate firms. According to the catering theory, payouts were instigated by the investors’ premiums for the dividend-paying shares (Baker and Wurgler 2004; Labhane 2020).

Table 9. Predictors estimates for dividend cuts.

| Variable             | All Firms | Regular Payers |
|----------------------|-----------|----------------|
|                      | Coefficient | Std. Error | Coefficient | Std. Error |
| C                    | 1.177      | 0.063 ***   | 0.079       | 0.115 ***  |
| DUMMY2020            | 0.015      | 0.026 **    | 0.798       | 0.055 ***  |
| DUMMY2021            | 0.037      | 0.046 **    | 0.548       | 0.069 ***  |
| FCFS                 | 0.000      | 0.000 **    | 0.039       | 0.028 **** |
| EBITDAMARGIN         | 0.004      | 0.005 **    | 0.029       | 0.018 **** |
| ROTA                 | −1.41      | 0.179 **    | −0.237      | 0.345 **** |
| LOGTA                | −0.033     | 0.015 **    | −0.036      | 0.025 **** |
| LOGMCAP              | −0.012     | 0.006 **    | 0.004       | 0.007 **** |
| LOGSALES             | −0.017     | 0.013 **    | 0.026       | 0.02 ****  |
| MBVRATIO             | −0.005     | 0.002 **    | 0.000       | 0.001 **** |
| DEBTEQUITY           | 0.008      | 0.005 **    | 0.017       | 0.029 **** |

Effects Specification

Cross-section fixed (dummy variables)

Root MSE: 0.450, 0.229
Mean dependent var.: 0.524, 0.191
S.D. dependent var.: 0.499, 0.394
Akaike into criterion: 1.531, 0.215
Schwarz criterion: 2.431, 0.894
Hannan–Quinn criter.: 1.852, 0.483
Durbin–Watson stat.: 2.354, 2.182
R-Squared: 0.189, 0.662
Adj. R-Squared: 0.051, 0.597
S.E. of regression: 0.487, 0.250
Sum squared resid: 720.517, 23.760
Log likelihood: −2208.147, 26.032
F-statistic: 1.372, 10.073
Prob(F-statistic): 0.000, 0.000

Cross-sections included: 509, 65
Total panel (balanced) observations: 3563, 455

Dependent Variable: DIVCUT
Method: Panel Least Squares
Sample: 2015–2021
Periods included: 7
White period standard errors & covariance (d.f. corrected)

*** Significant at 1%; ** Significant at 5%; * Significant at 10%.

For the regular payers, findings project the dividend cuts to be primarily associated with the disruption of the pandemic. As provided, excluding Dummy 2020 and Dummy 2021, no significant predictor association was traced between the dividend cuts of regular payers and explanatory variables (Table 9).

5. Discussion

Effective from 1 April 2020, dividend taxation in India switched from the DDT regime to the classical system of dividend taxes. The DDT was a costly proposition for the shareholders. It involved taxing the shareholders twice, first as direct corporate taxes on earnings and secondly via imposing DDT on the after-tax earnings distributed as dividends. The new regime (classical system), eliminating the DDT, made dividend income taxable in the hands of recipient shareholders, shifting the tax incidence from the distributing
companies to the shareholders. Hitherto, the DDT rate of 15%, and effectively 20.56% including surcharge and cess, apportioned the shareholders with 79 percent of the actual dividend distributed by the companies. Therefore, the elimination of DDT was expected to foresee the enhanced payouts by Indian firms for the FY 2020–2021.

Contrary to the expectations of enhanced payouts in 2021 consequent to DDT elimination, data demonstrate the increasing pattern of dividend cuts for the regular, as well as irregular, payers across all sectors. The year 2021 has witnessed dividends cut by more than 65 percent of the companies. There was an increase in dividend-omitting regular payer firms from 27 to 41 percent from 2020 to 2021 (Table 3).

The corporate payouts in India were sensitive to the changes in the economic environment and regulations. We noticed a considerable decline in the number of payers’ firms and the upsurge in dividend-cutting firms from 2018 onwards (Table 4). Endorsing DDT on the deemed dividend effective from 1 April 2018, which earlier was taxable as recipients’ income, is possibly the rationale for shrinking payouts. Findings corroborate significant changes in the corporate dividend behavior during the years 2021 and 2020 vis-à-vis the pre 2020 period. The years 2020 and 2021 witnessed remarkable cuts or entire omissions of dividends by the sample firms. Eighty percent of the regular payers, demonstrating the stable or increasing payout from 2015 onwards, have endorsed the reduction or entire omission of dividends during 2020. The trend is also in vogue in 2021.

The findings revealed that the uncertainty associated with the new normal, caused by the COVID-19 pandemic, was hard-hitting for firms’ financial and management sentiments. Ignoring past practices, investor reactions, and tax advantages associated with the eliminated DDT, the firms practicing stable payouts even showed drastic dividend cuts and omissions.

The study also examined the determinants of dividend payouts and the changing payout ratio. Free cash flows, lag dividend, market-to-book value, profitability, firm size, leverage, and growth rate were observed as significant predictors influencing dividend payouts, as corroborated by earlier studies (Baker et al. 2019; Kumar and Ranjani 2019; Franc-Dąbrowska et al. 2020). We found dividend payouts to be positively associated with the firm’s size, MBV ratio, and past dividends, and negatively associated with free cash flows and EBITDA margins (Table 6). These findings lent credence to the conservative dividend payout behavior of Indian corporate firms with the dominance of catering theory. These findings were similar to earlier studies (Baker and Wurgler 2004; Labhane 2020).

The payouts of regular payers appeared to be positively allied with cash flows and past dividends, and negatively with EBITDA margin and free cash flows (Table 7). The negative relationship between EBITDA margins and FCFs corroborated the conservative payout behavior of Indian corporate firms, emphasizing retaining the profits of the business. The positive relationship between the cash flow and dividend payouts of regular payers authenticated the dominance of agency concern in the payout decision of the firms.

The findings exhibited the years 2020 and 2021 as significantly associated with the changing payout, prima facie, authenticating the the influence of the pandemic and possibly the DDT elimination (implemented from April 2021 onwards). The year 2021 was found to be significantly negatively associated with payouts, corroborating the dividend omission practiced by regular payers (Table 8). The dividend cuts by regular payers were positively associated with FCFs and negatively with ROTA, Log TA, and market-to-book value (Table 9). The positive association of FCF with dividend cuts unveiled the management’s conservatism in disbursing the free cash flows as dividends. At the same time, they preferred to avoid dividend cuts to suppress the negative signal of low growth and associated adverse reactions of investors. The negative relationship between MBV and dividend cuts signaled the prevalence of catering and signaling theories in the payout behavior of Indian corporate firms. The management perhaps used the payout policy as a signal to control investor sentiments. Investors were sensitive to dividend cuts; therefore, managers with unobservable solid cash earnings preferred high payouts after retaining an adequate amount, to ensure that the next period payout should not fall short vis-à-vis the
current period (Baker et al. 2016). As expected, we found the payout of regular payer firms to be significantly positively associated with the past dividends.

6. Concluding Observation

Effective from 1 April 2020, the dividend taxation in India shifted to the classical system, thereby transferring the incidence of dividend tax from the dividend-distributed companies to the recipients’ shareholders. The adverse tax implications of dual taxation often make DDT a legitimate rationale of conservative payouts by corporate firms. The study attempts to examine the impact of DDT elimination on the dividend payout of Indian firms.

The economic fallout of the COVID pandemic was found to be pervasive in the payouts of Indian corporate firms. Contrary to the expected rise in payouts following the DDT elimination, Indian firms showed substantial cuts or entire omissions of dividends during 2020 and 2021. Overall results reflect the conservative payout behavior of the firms, with payouts as residual decisions negatively associated with free cash flows, profitability, growth rate, and positively related to the market premium. The findings exhibited the dominance of signaling, agency, and catering theory in the dividend payout of Indian corporate firms.

Dividend cuts and omissions were unwelcoming events for the investors in the market. Therefore, corporate firms were generally reluctant to signal pessimism by reduced payouts (Jensen et al. 2010). However, with the advent of the economic crisis, dividend cuts were the flexible sources of managing the liquidity crunch and uncertainty (Iyer et al. 2017). The economic disruption of COVID-19 was pervasive across all the sectors, bar a few (Laing 2020), and the dividend cuts behavior was logical and in vogue across economies (Wang and Guarino 2020; Krieger et al. 2020). With the resurgence of COVID-19, with more severity than the previous wave, the investors may foresee more dividend changes in the coming years. However, with the elimination of DDT, shares of the Indian companies practicing a stable dividend policy are worth investing in from the perspective of regular dividend income.

This paper’s findings have practical implications for managers and investors. The dividend payout is a crucial decision likely to affect firms’ growth prospects and stability. Apart from constituting the return on the stock investment, the dividends are vital signals of firms’ performances and profitability to their investors. Using the significant determinants explored in the study, managers can formulate a stable dividend policy equilibrating the firm’s requirements and investors’ expectations.

The dividend payouts are not necessarily informative of the firm’s profitability and cash flows. For the investors expecting a stable dividend income, the shares of regular dividend-paying firms are a better investment alternative.

With the increasing Indian and foreign investors base, regulatory policies ensuring transparency in dividend decisions can aid in resolving the information asymmetry associated with dividend policies.

The present analysis is limited to the financial factors; incorporating the qualitative traits can perhaps facilitate a widened view of the current and future development of dividend policy.

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### Appendix A. Sample Firms Analyzed

| Number | Firm Name                                      |
|-------|------------------------------------------------|
| 1     | Carborundum Universal Ltd.                    |
| 2     | Grindwell Norton Ltd.                         |
| 3     | Bombay Burmah Trading Corporation Ltd.        |
| 4     | Gujarat Ambuja Exports Ltd.                   |
| 5     | Tata Coffee Ltd.                              |
| 6     | GM Breweries Ltd.                             |
| 7     | United Breweries Ltd.                         |
| 8     | Aicon Castalloy Ltd.                          |
| 9     | Apollo Tyres Ltd.                             |
| 10    | Atul Auto Ltd.                                |
| 11    | Automotive Axles Ltd.                         |
| 12    | Bajaj Auto Ltd.                               |
| 13    | Banco Products (India) Ltd.                   |
| 14    | Endurance Technologies Ltd.                   |
| 15    | Escorts Ltd.                                  |
| 16    | Exide Industries Ltd.                         |
| 17    | Gabriel India Ltd.                            |
| 18    | GP Petroleums Ltd.                            |
| 19    | Hindustan Composites Ltd.                     |
| 20    | Hi-Tech Gears Ltd.                            |
| 21    | Jamna Auto Industries Ltd.                    |
| 22    | JK Tyre & Industries Ltd.                     |
| 23    | JTEKT India Ltd.                              |
| 24    | LG Balakrishnan & Brothers Ltd.               |
| 25    | Lumax Auto Technologies Ltd.                  |
| 26    | Maharashtra Scooters Ltd.                     |
| 27    | Mahindra & Mahindra Ltd.                      |
| 28    | Man Industries (India) Ltd.                   |
| 29    | Panama Petrochem Ltd.                         |
| 30    | Rico Auto Industries Ltd.                     |
| 31    | Sandhar Technologies Ltd.                     |
| 32    | Shanthi Gears Ltd.                            |
| 33    | Sterling Tools Ltd.                           |
| 34    | Swaraj Engines Ltd.                           |
| 35    | Tide Water Oil Company (India) Ltd.           |
| 36    | Timken India Ltd.                             |
| 37    | TVS Srichakra Ltd.                            |
| 38    | Wabco India Ltd.                              |
| 39    | AIA Engineering Ltd.                          |
| 40    | Alphageo (India) Ltd.                         |
| 41    | Apar Industries Ltd.                          |
| 42    | Bharat Electronics Ltd.                       |
| 43    | Engineers India Ltd.                          |
| 44    | GMM Pfaudler Ltd.                             |
| 45    | Graphite India Ltd.                           |
| 46    | Ingersoll-Rand (India) Ltd.                   |
| 47    | Kirloskar Brothers Ltd.                       |
| 48    | Orient Abrasives Ltd.                         |
| 49    | Orient Refractories Ltd.                     |
| 50    | Rites Ltd.                                    |
| 51    | Thermax Ltd.                                  |
| 52    | Vesuvius India Ltd.                           |
| 53    | Aarti Industries Ltd.                         |
| 54    | Akzo Nobel India Ltd.                         |
| 55    | Alky Amines Chemicals Ltd.                    |
| 56    | Apoctex Industries Ltd.                       |
| 57    | Balaji Amines Ltd.                            |
|   | Company Name                                      |
|---|--------------------------------------------------|
| 58 | BASF India Ltd.                                  |
| 59 | Bhansali Engineering Polymers Ltd.              |
| 60 | Bharat Rasayan Ltd.                             |
| 61 | Chambal Fertilisers & Chemicals Ltd.            |
| 62 | Coromandel International Ltd.                   |
| 63 | Deepak Fertilisers & Petrochemicals Corporation Ltd. |
| 64 | Dhanuka Agritech Ltd.                           |
| 65 | Dhunseri Ventures Ltd.                          |
| 66 | Gujarat State Fertilizers & Chemicals Ltd.      |
| 67 | Kansai Nerolac Paints Ltd.                      |
| 68 | Nocil Ltd.                                      |
| 69 | Oriental Carbon & Chemicals Ltd.                |
| 70 | PI Industries Ltd.                              |
| 71 | Privi Speciality Chemicals Ltd.                 |
| 72 | Rallis India Ltd.                               |
| 73 | Rashtriya Chemicals & Fertilizers Ltd.          |
| 74 | Sharda Cropchem Ltd.                            |
| 75 | Supreme Petrochem Ltd.                          |
| 76 | UPL Ltd.                                        |
| 77 | Vidhi Specialty Food Ingredients Ltd.            |
| 78 | Vinati Organics Ltd.                            |
| 79 | Ambuja Cements Ltd.                             |
| 80 | Century Plyboards (India) Ltd.                  |
| 81 | Everest Industries Ltd.                         |
| 82 | Greenply Industries Ltd.                        |
| 83 | JK Cement Ltd.                                  |
| 84 | JK Lakshmi Cement Ltd.                          |
| 85 | Pokarna Ltd.                                    |
| 86 | Ramco Industries Ltd.                           |
| 87 | Shree Cement Ltd.                               |
| 88 | Somany Ceramics Ltd.                            |
| 89 | The Ramco Cements Ltd.                          |
| 90 | Ultratech Cement Ltd.                           |
| 91 | Dixon Technologies (India) Ltd.                 |
| 92 | KDDL Ltd.                                       |
| 93 | Symphony Ltd.                                   |
| 94 | Hindustan Petroleum Corporation Ltd.            |
| 95 | Indian Oil Corporation Ltd.                     |
| 96 | Oil & Natural Gas Corporation Ltd.              |
| 97 | Oricon Enterprises Ltd.                         |
| 98 | Reliance Industries Ltd.                        |
| 99 | Rajesh Exports Ltd.                             |
| 100| Titan Company Ltd.                              |
| 101| Birla Corporation Ltd.                          |
| 102| Century Textiles & Industries Ltd.              |
| 103| DCM Shriram Ltd.                                |
| 104| SRF Ltd.                                        |
| 105| Surya Roshni Ltd.                               |
| 106| Tasmac Infrastruture & Holdings Ltd.            |
| 107| Centum Electronics Ltd.                         |
| 108| Maithan Alloys Ltd.                             |
| 109| Avanti Feeds Ltd.                               |
| 110| AVT Natural Products Ltd.                       |
| 111| Bajaj Consumer Care Ltd.                        |
| 112| Britannia Industries Ltd.                       |
| 113| Emami Ltd.                                      |
| 114| Galaxy Surfactants Ltd.                         |
| 115| Gillette India Ltd.                             |
| No. | Company Name                            |
|-----|----------------------------------------|
| 116 | Godfrey Phillips India Ltd.             |
| 117 | Hatsun Agro Products Ltd.              |
| 118 | Heritage Foods Ltd.                    |
| 119 | Hindustan Unilever Ltd.                |
| 120 | Jyothy Labs Ltd.                       |
| 121 | KRBL Ltd.                              |
| 122 | Marico Ltd.                            |
| 123 | Mirza International Ltd.               |
| 124 | Relaxo Footwears Ltd.                  |
| 125 | Tasty Bite Eatables Ltd.               |
| 126 | Tata Consumer Products Ltd.            |
| 127 | VST Industries Ltd.                    |
| 128 | Mahanagar Gas Ltd.                     |
| 129 | Aarti Drugs Ltd.                       |
| 130 | Alembic Ltd.                           |
| 131 | Alembic Pharmaceuticals Ltd.            |
| 132 | Aurobindo Pharma Ltd.                  |
| 133 | Caplin Point Laboratories Ltd.         |
| 134 | Cipla Ltd.                             |
| 135 | Divis Laboratories Ltd.                |
| 136 | Dr. Lal Pathlabs Ltd.                  |
| 137 | Hester Biosciences Ltd.                |
| 138 | Hikal Ltd.                             |
| 139 | Jubilant Pharmova Ltd.                 |
| 140 | Lupin Ltd.                             |
| 141 | Nato Pharma Ltd.                       |
| 142 | Nectar Lifesciences Ltd.               |
| 143 | Pfizer Ltd.                            |
| 144 | Piramal Enterprises Ltd.               |
| 145 | RPG Life Sciences Ltd.                 |
| 146 | SMS Pharmaceuticals Ltd.               |
| 147 | Strides Pharma Science Ltd.            |
| 148 | Torrent Pharmaceuticals Ltd.           |
| 149 | Indraprastha Gas Ltd.                  |
| 150 | GE Power India Ltd.                    |
| 151 | Indian Hume Pipe Company Ltd.          |
| 152 | Incon International Ltd.               |
| 153 | J Kumar Infraproject Ltd.              |
| 154 | KEC International Ltd.                 |
| 155 | KNR Construction Ltd.                  |
| 156 | Larsen & Toubro Ltd.                   |
| 157 | Power Mech Projects Ltd.               |
| 158 | Vindhyaa Telelinks Ltd.                |
| 159 | Maharashtra Seamless Ltd.              |
| 160 | Sarda Energy & Minerals Ltd.           |
| 161 | Tata Steel Ltd.                        |
| 162 | Tinplate Company Of India Ltd.         |
| 163 | Welspun Corp Ltd.                      |
| 164 | Accelya Solutions India Ltd.           |
| 165 | Aptech Ltd.                            |
| 166 | Cyient Ltd.                            |
| 167 | eClerx Services Ltd.                   |
| 168 | Hinduja Global Solutions Ltd.          |
| 169 | Info Edge (India) Ltd.                 |
| 170 | Infosys Ltd.                           |
| 171 | Larsen & Toubro Infotech Ltd.          |
| 172 | Mastek Ltd.                            |
173 Mphasis Ltd. 
174 Nucleus Software Exports Ltd. 
175 Persistent Systems Ltd. 
176 Quick Heal Technologies Ltd. 
177 Sasken Technologies Ltd. 
178 Adani Ports and Special Economic Zone Ltd. 
179 Gateway Distriparks Ltd. 
180 DB Corp Ltd. 
181 Entertainment Network (India) Ltd. 
182 NXT Digital Ltd. 
183 Sandesh Ltd. 
184 Saregama India Ltd. 
185 Zee Entertainment Enterprises Ltd. 
186 Coal India Ltd. 
187 Gujarat Mineral Development Corporation Ltd. 
188 NMDC Ltd. 
189 Gravita India Ltd. 
190 Hindustan Zinc Ltd. 
191 National Aluminium Company Ltd. 
192 Seshasayee Paper & Boards Ltd. 
193 Tamil Nadu Newsprint & Papers Ltd. 
194 Astral Ltd. 
195 Cosmo Films Ltd. 
196 EPL Ltd. 
197 Mold-Tek Packaging Ltd. 
198 Polypplex Corporation Ltd. 
199 Time Technoplast Ltd. 
200 NTPC Ltd. 
201 SJVN Ltd. 
202 Tata Power Company Ltd. 
203 Torrent Power Ltd. 
204 Care Ratings Ltd. 
205 DLF Ltd. 
206 JMC Projects (India) Ltd. 
207 PSP Projects Ltd. 
208 Sobha Ltd. 
209 Sunteck Realty Ltd. 
210 Cochin Shipyard Ltd. 
211 Bombay Dyeing & Manufacturing Company Ltd. 
212 Himatsingka Seide Ltd. 
213 Jindal Worldwide Ltd. 
214 Kewal Kiran Clothing Ltd. 
215 Kitex Garments Ltd. 
216 KPR Mill Ltd. 
217 Mayur Uniquoters Ltd. 
218 Page Industries Ltd. 
219 Ruby Mills Ltd. 
220 Swan Energy Ltd. 
221 Trident Ltd. 
222 Welspun India Ltd. 
223 Zodiac Clothing Company Ltd. 
224 Adani Enterprises Ltd. 
225 Gujarat Gas Ltd. 
226 Redington (India) Ltd. 
227 Sakuma Exports Ltd. 
228 Zuari Global Ltd. 
229 Monsanto India Ltd.—(Amalgamated) 
230 Wendt (India) Ltd. 
231 Bannari Amman Sugars Ltd.
232 CCL Products (India) Ltd.
233 Radico Khaitan Ltd.
234 Amara Raja Batteries Ltd.
235 Balkrishna Industries Ltd.
236 Ceat Ltd.
237 Cummins India Ltd.
238 Fiem Industries Ltd.
239 Gandhi Special Tubes Ltd.
240 HBL Power Systems Ltd.
241 Hero MotoCorp Ltd.
242 India Nippon Electricals Ltd.
243 Jay Bharat Maruti Ltd.
244 JBM Auto Ltd.
245 Lumax Industries Ltd.
246 Maruti Suzuki India Ltd.
247 Menon Bearings Ltd.
248 Minda Corporation Ltd.
249 Minda Industries Ltd.
250 MM Forgings Ltd.
251 Motherson Sumi Systems Ltd.
252 Munjal Showa Ltd.
253 NRB Bearings Ltd.
254 Precision Camshafts Ltd.
255 Rane Brake Lining Ltd.
256 Savita Oil Technologies Ltd.
257 Srilakalasthi Pipes Ltd.
258 Subros Ltd.
259 Sundaram-Clayton Ltd.
260 Suprajit Engineering Ltd.
261 TVS Motor Company Ltd.
262 VST Tillers Tractors Ltd.
263 Wheels India Ltd.
264 Hindustan Aeronautics Ltd.
265 Ador Welding Ltd.
266 BEML Ltd.
267 Bharat Dynamics Ltd.
268 Elgi Equipments Ltd.
269 Genus Power Infrastructures Ltd.
270 Havells India Ltd.
271 Hercules Hoists Ltd.
272 Honda India Power Products Ltd.
273 HPL Electric & Power Ltd.
274 Igarashi Motors India Ltd.
275 Kirloskar Industries Ltd.
276 Kirloskar Oil Engines Ltd.
277 Nesco Ltd.
278 Praj Industries Ltd.
279 Shriram Pistons & Rings Ltd.
280 Siemens Ltd.
281 Skipper Ltd.
282 TD Power Systems Ltd.
283 V-Guard Industries Ltd.
284 Voltamp Transformers Ltd.
285 Asian Paints Ltd.
286 Atul Ltd.
287 Berger Paints India Ltd.
288 Bhageria Industries Ltd.
289 Deepak Nitrite Ltd.
290 Excel Industries Ltd.
|   |   |
|---|---|
| 291 | GHCL Ltd. |
| 292 | GOCL Corporation Ltd. |
| 293 | Gujarat Alkalies & Chemicals Ltd. |
| 294 | Insecticides (India) Ltd. |
| 295 | Manali Petrochemicals Ltd. |
| 296 | Meghmani Organics Ltd. |
| 297 | Navin Fluorine International Ltd. |
| 298 | Pidilite Industries Ltd. |
| 299 | Plastiblends India Ltd. |
| 300 | Solar Industries (India) Ltd. |
| 301 | Sudarshan Chemical Industries Ltd. |
| 302 | Tata Chemicals Ltd. |
| 303 | ACC Ltd. |
| 304 | Cera Sanitaryware Ltd. |
| 305 | Deccan Cements Ltd. |
| 306 | HIL Ltd. |
| 307 | HSIL Ltd. |
| 308 | Kajaria Ceramics Ltd. |
| 309 | KCP Ltd. |
| 310 | La Opala RG Ltd. |
| 311 | Mangalam Cement Ltd. |
| 312 | Orient Cement Ltd. |
| 313 | Visaka Industries Ltd. |
| 314 | Blue Star Ltd. |
| 315 | Control Print Ltd. |
| 316 | Voltas Ltd. |
| 317 | Bharat Petroleum Corporation Ltd. |
| 318 | Oil India Ltd. |
| 319 | Thangamayil Jewellery Ltd. |
| 320 | Andhra Sugars Ltd. |
| 321 | Balmer Lawrie & Company Ltd. |
| 322 | Grasim Industries Ltd. |
| 323 | Finolex Cables Ltd. |
| 324 | KEI Industries Ltd. |
| 325 | Precision Wires India Ltd. |
| 326 | Agro Tech Foods Ltd. |
| 327 | Colgate-Palmolive (India) Ltd. |
| 328 | Dabur India Ltd. |
| 329 | Godrej Consumer Products Ltd. |
| 330 | ITC Ltd. |
| 331 | LT Foods Ltd. |
| 332 | Procter & Gamble Hygiene & Health Care Ltd. |
| 333 | VIP Industries Ltd. |
| 334 | Zydus Wellness Ltd. |
| 335 | Gujarat State Petronet Ltd. |
| 336 | Advanced Enzyme Technologies Ltd. |
| 337 | Alkem Laboratories Ltd. |
| 338 | Amrutanjan Health Care Ltd. |
| 339 | Apollo Hospitals Enterprise Ltd. |
| 340 | Bliss GVS Pharma Ltd. |
| 341 | Cadila Healthcare Ltd. |
| 342 | Dr. Reddys Laboratories Ltd. |
| 343 | Granules India Ltd. |
| 344 | Gufic Biosciences Ltd. |
| 345 | Indoco Remedies Ltd. |
| 346 | JB Chemicals & Pharmaceuticals Ltd. |
| 347 | Lincoln Pharmaceuticals Ltd. |
| 348 | Marksans Pharma Ltd. |
| 349 | Poly Medicure Ltd. |
| 350 | Shalby Ltd. |
| 351 | Shilpa Medicare Ltd. |
| 352 | Sun Pharmaceutical Industries Ltd. |
| 353 | TTK Healthcare Ltd. |
| 354 | Unichem Laboratories Ltd. |
| 355 | Advani Hotels & Resorts (India) Ltd. |
| 356 | Wonderla Holidays Ltd. |
| 357 | GAIL (India) Ltd. |
| 358 | IRB Infrastructure Developers Ltd. |
| 359 | Kalpataru Power Transmission Ltd. |
| 360 | Man InfracOnSTRUCTION Ltd. |
| 361 | NCC Ltd. |
| 362 | Om Infra Ltd. |
| 363 | PNC Infratech Ltd. |
| 364 | Reliance Industrial Infrastructure Ltd. |
| 365 | Jindal Saw Ltd. |
| 366 | JSW Steel Ltd. |
| 367 | Mishra Dhatu Nigam Ltd. |
| 368 | Ratnamani Metals & Tubes Ltd. |
| 369 | Shankara Building Products Ltd. |
| 370 | 63 Moons Technologies Ltd. |
| 371 | Birlasoft Ltd. |
| 372 | HCL Technologies Ltd. |
| 373 | Mindtree Ltd. |
| 374 | Newgen Software Technologies Ltd. |
| 375 | Onmobile Global Ltd. |
| 376 | Sonata Software Ltd. |
| 377 | Tata Consultancy Services Ltd. |
| 378 | Tata Elxsi Ltd. |
| 379 | Tech Mahindra Ltd. |
| 380 | Vakrangee Ltd. |
| 381 | Wipro Ltd. |
| 382 | Zen Technologies Ltd. |
| 383 | Zensar Technologies Ltd. |
| 384 | Aegis Logistics Ltd. |
| 385 | Allcargo Logistics Ltd. |
| 386 | Container Corporation Of India Ltd. |
| 387 | The Great Eastern Shipping Company Ltd. |
| 388 | Transport Corporation Of India Ltd. |
| 389 | Balaji Telefilms Ltd. |
| 390 | Navneet Education Ltd. |
| 391 | PVR Ltd. |
| 392 | Sun TV Network Ltd. |
| 393 | TV Today Network Ltd. |
| 394 | MOIL Ltd. |
| 395 | Delta Corp Ltd. |
| 396 | Hindalco Industries Ltd. |
| 397 | Vedanta Ltd. |
| 398 | Orient Paper & Industries Ltd. |
| 399 | Finolex Industries Ltd. |
| 400 | Jai Corp Ltd. |
| 401 | Jindal Poly Films Ltd. |
| 402 | Nilkamal Ltd. |
| 403 | Responsive Industries Ltd. |
| 404 | Supreme Industries Ltd. |
| 405 | Uflex Ltd. |
| 406 | CESC Ltd. |
| 407 | Gujarat Industries Power Company Ltd. |
408 India Power Corporation Ltd.
409 Nava Bharat Ventures Ltd.
410 NHPC Ltd.
411 NLC India Ltd.
412 Power Grid Corporation Of India Ltd.
413 CRISIL Ltd.
414 Ajmera Realty & Infra India Ltd.
415 Anant Raj Ltd.
416 Ashiana Housing Ltd.
417 Brigade Enterprises Ltd.
418 Dilip Buildcon Ltd.
419 Prestige Estate Projects Ltd.
420 Trent Ltd.
421 Garden Reach Shipbuilders & Engineers Ltd.
422 Astra Microwave Products Ltd.
423 Bharti Airtel Ltd.
424 Indus Towers Ltd.
425 Tata Communications Ltd.
426 Century Enka Ltd.
427 Ganesha Ecosphere Ltd.
428 Garware Technical Fibres Ltd.
429 Lakshmi Machine Works Ltd.
430 Lux Industries Ltd.
431 Nitin Spinners Ltd.
432 Rupa & Company Ltd.
433 Siyaram Silk Mills Ltd.
434 Sutlej Textiles & Industries Ltd.
435 Weizmann Ltd.
436 India Motor Parts & Accessories Ltd.
437 Sundram Fasteners Ltd.
438 VenkyS (India) Ltd.
439 Som Distilleries & Breweries Ltd.
440 Castrol India Ltd.
441 Greaves Cotton Ltd.
442 Harita Seating Systems Ltd.
443 Nelcast Ltd.
444 Ramkrishna Forgings Ltd.
445 Rane (Madras) Ltd.
446 Schaeffler India Ltd.
447 Setco Automotive Ltd.
448 SML Isuzu Ltd.
449 Steel Strips Wheels Ltd.
450 Titagarh Wagon Ltd.
451 Ucal Fuel Systems Ltd.
452 Varroc Engineering Ltd.
453 Interglobe Aviation Ltd.
454 ABB India Ltd.
455 Bharat Heavy Electricals Ltd.
456 Elecon Engineering Company Ltd.
457 GE T&D India Ltd.
458 KSB Ltd.
459 Foseco India Ltd.
460 Godrej Industries Ltd.
461 Jayant Agro-Organics Ltd.
462 Vikas EcoTech Ltd.
463 Bajaj Electricals Ltd.
464 Johnson Controls—Hitachi Air Conditioning India Ltd.
Deep Energy Resources Ltd.
Rain Industries Ltd.
Bhartiya International Ltd.
DFM Foods Ltd.
Glaxosmithkline Consumer Healthcare Ltd.—(Amalgamated)
Vadilal Industries Ltd.
Biocon Ltd.
Glenmark Pharmaceuticals Ltd.
Indraprastha Medical Corporation Ltd.
Sanofi India Ltd.
Suven Life Sciences Ltd.
Asian Hotels (West) Ltd.
EIH Associated Hotels Ltd.
EIH Ltd.
India Tourism Development Corporation Ltd.
Linde India Ltd.
Petronet LNG Ltd.
Sadbhav Engineering Ltd.
Simplex Infrastructures Ltd.
APL Apollo Tubes Ltd.
Gallantt Ispat Ltd.
Tata Steel Long Products Ltd.
Genesys International Corporation Ltd.
Hexaware Technologies Ltd.
Take Solutions Ltd.
Blue Dart Express Ltd.
GATI Ltd.
HT Media Ltd.
Shemaroo Entertainment Ltd.
Crest Ventures Ltd.
Huhtamaki India Ltd.
Jain Irrigation Systems Ltd.
Kolte Patil Developers Ltd.
Mahindra Lifespace Developers Ltd.
Oberoi Realty Ltd.
Omaxe Ltd.
Phoenix Mills Ltd.
Puravankara Ltd.
Future Lifestyle Fashions Ltd.
Shoppers Stop Ltd.
V-Mart Retail Ltd.
Arvind Ltd.
Raymond Ltd.
Vardhman Textiles Ltd.
MMTC Ltd.

Appendix B. Regular Payer Firms

6 GM Breweries Ltd.
7 United Breweries Ltd.
12 Bajaj Auto Ltd.
18 GP Petroleums Ltd.
74 Sharda Cropchem Ltd.
75 Supreme Petrochem Ltd.
136 Dr. Lal Pathlabs Ltd.
146 SMS Pharmaceuticals Ltd.
153 J Kumar Infraproject Ltd.
163 Welspun Corp Ltd.
212 Himatsingka Seide Ltd.
|   | Company Name                                      |
|---|--------------------------------------------------|
| 213| Jindal Worldwide Ltd.                            |
| 227| Sakuma Exports Ltd.                              |
| 232| CCL Products (India) Ltd.                        |
| 233| Radico Khaitan Ltd.                              |
| 240| HBL Power Systems Ltd.                           |
| 247| Menon Bearings Ltd.                              |
| 250| MM Forgings Ltd.                                 |
| 273| HPL Electric & Power Ltd.                        |
| 274| Igarashi Motors India Ltd.                       |
| 279| Shriram Pistons & Rings Ltd.                     |
| 283| V-Guard Industries Ltd.                          |
| 295| Manali Petrochemicals Ltd.                       |
| 300| Solar Industries (India) Ltd.                    |
| 313| Visaka Industries Ltd.                           |
| 319| Thangamayil Jewellery Ltd.                       |
| 324| KEI Industries Ltd.                              |
| 336| Advanced Enzyme Technologies Ltd.                |
| 338| Amrutanjan Health Care Ltd.                      |
| 344| Gufic Biosciences Ltd.                           |
| 347| Lincoln Pharmaceuticals Ltd.                     |
| 358| IRB Infrastructure Developers Ltd.               |
| 371| Birlasoft Ltd.                                   |
| 375| Onmobile Global Ltd.                             |
| 384| Aegis Logistics Ltd.                             |
| 400| Jai Corp Ltd.                                    |
| 401| Jindal Poly Films Ltd.                           |
| 403| Responsive Industries Ltd.                       |
| 405| Uflex Ltd.                                       |
| 410| NHPC Ltd.                                        |
| 414| Ajmera Realty & Infra India Ltd.                 |
| 417| Brigade Enterprises Ltd.                         |
| 421| Garden Reach Shipbuilders & Engineers Ltd.       |
| 427| Ganesha Ecosphere Ltd.                           |
| 430| Lux Industries Ltd.                              |
| 431| Nitin Spinners Ltd.                              |
| 432| Rupa & Company Ltd.                              |
| 434| Sutlej Textiles & Industries Ltd.                |
| 435| Weizmann Ltd.                                    |
| 438| VenkyS (India) Ltd.                              |
| 439| Som Distilleries & Breweries Ltd.                |
| 452| Varroc Engineering Ltd.                          |
| 462| Vikas EcoTech Ltd.                               |
| 464| Johnson Controls—Hitachi Air Conditioning India Ltd. |
| 465| Deep Energy Resources Ltd.                       |
| 467| Bhartiya International Ltd.                      |
| 468| DFM Foods Ltd.                                   |
| 482| Sadbhav Engineering Ltd.                         |
| 494| HT Media Ltd.                                    |
| 495| Shemaroo Entertainment Ltd.                      |
| 498| Jain Irrigation Systems Ltd.                     |
| 501| Oberoi Realty Ltd.                               |
| 502| Omaxe Ltd.                                       |
| 505| Future Lifestyle Fashions Ltd.                   |
| 506| Shoppers Stop Ltd.                               |
### Appendix C. Result of Factor Analysis Used for Extracting the Dependent Variables for the Study

| Components | Factors          | 1. Profitability | 2. Firm Size | 3. Book Value | 4. Cash Flows | 5. Investment Opportunity and Growth Rate | 6. Leverage | 7. Operating Profit | 8. Tax Rate |
|------------|------------------|------------------|--------------|---------------|---------------|------------------------------------------|-------------|---------------------|-------------|
| ShareholdersFunds | 0.933            |                  |              |               |               |                                          |             |                     |             |
| Networth    | 0.931            |                  |              |               |               |                                          |             |                     |             |
| EBITDA      | 0.898            |                  |              |               |               |                                          |             |                     |             |
| Netsales    | 0.767            |                  |              |               |               |                                          |             |                     |             |
| Interest    | 0.746            | 0.731            | 0.444        |               |               |                                          |             |                     |             |
| EAT         |                  | 0.375            | 0.894        |               |               |                                          |             |                     |             |
| LogTA       |                  | 0.367            | 0.879        |               |               |                                          |             |                     |             |
| LogNetworth |                  | 0.333            | 0.840        |               |               |                                          |             |                     |             |
| LogSales    |                  |                  |              |               |               |                                          |             |                     |             |
| LogMcap     | 0.834            | 0.327            |              |               |               |                                          |             |                     |             |
| BVS         |                  | 0.972            |              |               |               |                                          |             |                     |             |
| AdjBVS      |                  | 0.972            |              |               |               |                                          |             |                     |             |
| EPS         |                  | 0.644            | 0.441        |               |               |                                          |             |                     |             |
| Currentratio|                  | 0.635            |              |               |               |                                          |             |                     | 0.381       |
| C.F.        |                  |                  | −0.889       |               |               |                                          |             |                     |             |
| FCF         |                  |                  | −0.810       | −0.354        |               |                                          |             |                     |             |
| NetCA       |                  | −0.537           | 0.603        |               |               |                                          |             |                     |             |
| LagDiv      |                  | 0.588            |              |               |               |                                          |             |                     |             |
| ROTA        |                  | 0.811            |              |               |               |                                          |             |                     |             |
| MBVratio    |                  | 0.776            |              |               |               |                                          |             |                     |             |
| Debequity   |                  | 0.943            |              |               |               |                                          |             |                     |             |
| ROE         |                  | 0.506            | 0.769        |               |               |                                          |             |                     |             |
| EBITDAmargin|                  |                  |              |               |               |                                          | 0.857       |                     |             |
| Taxrate     |                  |                  |              |               |               |                                          |             | 0.942               |             |
| IntCovergae |                  |                  |              |               |               |                                          |             | 0.313               |             |

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 7 iterations.
### Appendix D. Segregated Year-Wise Regression Results of Dividend Payout Determinants

| Year | Model | B | Std. Error | Beta | Year | Model | B | Std. Error | Beta | Year | Model | B | Std. Error | Beta | Year | Model | B | Std. Error | Beta | Year | Model | B | Std. Error | Beta |
|------|-------|---|------------|------|------|-------|---|------------|------|------|-------|---|------------|------|------|-------|---|------------|------|------|-------|---|------------|------|------|
| 2015 | (Constant) | -116.46 | 31.01 | *** | 2016 | (Constant) | -48.78 | 34.68 | ** | 2017 | (Constant) | 7.738 | 48.98 | | 2018 | (Constant) | -20.5 | 50.9 | | 2019 | (Constant) | -26.5 | 50.9 | | 2020 | (Constant) | -40.66 | 114.05 | *** |
|      | BVS | 0.06 | 0.01 | ** |      | BVS | 0.01 | 0.01 | 0.02 |      | BVS | 0.01 | 0.01 | ** |      | BVS | 0.01 | 0.01 | 0.02 |      | BVS | 0.01 | 0.01 | ** |      | BVS | 0.01 | 0.01 | ** |
|      | CF | 0 | 0 | ** |      | CF | 0 | 0 | 0.19 |      | CF | 0 | 0 | 0.19 | ** |      | CF | 0 | 0 | 0.19 | ** |      | CF | 0 | 0 | 0.19 | ** |
|      | DebtEquity | 36.16 | 7.15 | *** |      | DebtEquity | -29.19 | 10.17 | ** |      | DebtEquity | -24.0 | 10.59 | ** |      | DebtEquity | -7.5 | 10.4 | ** |      | DebtEquity | -3.95 | 7.4 | ** |      | DebtEquity | -3.95 | 7.4 | ** |
|      | EBITDA | 0 | 0.01 | ** |      | EBITDA | 0 | 0.01 | -0.06 |      | EBITDA | 0 | 0.01 | -0.06 |      | EBITDA | 0 | 0.01 | -0.06 |      | EBITDA | 0 | 0.01 | -0.06 |      | EBITDA | 0 | 0.01 | -0.06 |
|      | FCF | 0 | 0 | ** |      | FCF | 0 | 0 | 0.11 |      | FCF | 0 | 0 | 0.11 | ** |      | FCF | 0 | 0 | 0.11 | ** |      | FCF | 0 | 0 | 0.11 | ** |
|      | MBVratio | 0.52 | 0.96 | ** |      | MBVratio | 0.52 | 0.96 | ** |      | MBVratio | 0.52 | 0.96 | ** |      | MBVratio | 0.52 | 0.96 | ** |      | MBVratio | 0.52 | 0.96 | ** |
|      | ROTA | 48.77 | 75.4 | ** |      | ROTA | 48.77 | 75.4 | ** |      | ROTA | 48.77 | 75.4 | ** |      | ROTA | 48.77 | 75.4 | ** |      | ROTA | 48.77 | 75.4 | ** |
|      | Networth | 0 | 0 | ** |      | Networth | 0 | 0 | 0.02 |      | Networth | 0 | 0 | 0.02 | ** |      | Networth | 0 | 0 | 0.02 | ** |      | Networth | 0 | 0 | 0.02 | ** |
|      | Taxrate | 1.87 | 2.43 | ** |      | Taxrate | 1.87 | 2.43 | ** |      | Taxrate | 1.87 | 2.43 | ** |      | Taxrate | 1.87 | 2.43 | ** |      | Taxrate | 1.87 | 2.43 | ** |
|      | LogTA | 18.5 | 3.89 | *** |      | LogTA | 18.5 | 3.89 | *** |      | LogTA | 18.5 | 3.89 | *** |      | LogTA | 18.5 | 3.89 | *** |      | LogTA | 18.5 | 3.89 | *** |
|      | EBITDA | -4.9 | 3.51 | ** |      | EBITDA | -4.9 | 3.51 | ** |      | EBITDA | -4.9 | 3.51 | ** |      | EBITDA | -4.9 | 3.51 | ** |      | EBITDA | -4.9 | 3.51 | ** |
|      | LogMar | 0.15 | 0.02 | ** |      | LogMar | 0.15 | 0.02 | ** |      | LogMar | 0.15 | 0.02 | ** |      | LogMar | 0.15 | 0.02 | ** |      | LogMar | 0.15 | 0.02 | ** |
|      | F Square | 0.963 | 508 | ** |      | F Square | 0.963 | 508 | ** |      | F Square | 0.963 | 508 | ** |      | F Square | 0.963 | 508 | ** |      | F Square | 0.963 | 508 | ** |

*** Significant at 1%; ** Significant at 5%. The red color indicates negative values.
Notes

1.  https://www.ceicdata.com/en/indicator/india/market-capitalization--nominal-gdp, (accessed on 31 December 2020).
2.  https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=1167REPORTS, (accessed on 25 July 2021).
3.  https://fortune.com/2021/01/27/india-fdi-foreign-investment-2020/, (accessed on 15 July 2021).
4.  https://www.financialexpress.com/budget/finance-bill-2018-all-you-need-to-know/1045506/, (accessed on 2 June 2021).

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