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Behaviour of Dividend Decision Determinants: A Comparative Study of Select Indian Public and Private Manufacturing Companies

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Abstract

Developing an optimal dividend policy is a critical area for management because it allocates a firm's surplus profit distribution among shareholders as dividends or can be retained in the business for re-investment. The present study examines the trend and pattern of dividend decision variables of Indian manufacturing companies over the period 2000-01 to 2019-20. The analysis uses descriptive statistics and an independent sample t-test, revealing that highly profitable, liquid, and larger firms have higher dividend payout ratios. In contrast, firms with high capital expenditure in fixed assets generally distribute lower dividends to their shareholders. The findings advocated that the dividend policy decision of Indian manufacturing firms is primarily influenced by variables like the firm's size, profitability, liquidity, lagged dividend, and cash-flow position. The study results are also consistent with the life cycle theory and signaling theory of dividend policy.

Keywords: Dividend Policy, Payout Ratio, Indian Manufacturing firms, Dividend Determinants, and Dividend Behaviour

Behaviour of Dividend Decision Determinants: A Comparative Study of Select Indian Public and Private Manufacturing Companies

INTRODUCTION

Dividend decision has been an important topic for researchers, academicians, and financial analysts for about six decades. It has been listed as a puzzle in corporate finance (Brealey & Myers, 2002). The forerunner is Lintner (1956), who argued that the current year dividend is primarily determined by the firm's past dividend and current earnings. In addition to it, several theories also have been developed. Miller and Modigliani (MM) conducted thorough research on dividend decisions in 1961. Britain (1966) studied the extended cash flow version of Lintner's model to examine the dividend behavior of firms. Myers (1984), Fama and French (2001), and Anand (2002) etc. are relatively recent and comprehensive studies on dividend practices. A firm's dividend policy should be framed by keeping the objective of "wealth maximization of shareholders." Much theoretical and empirical research on dividend policy highlighted that payout decisions are duly affected by several factors such as profits, lagged dividend, size and age of firm, leverage, liquidity and cash flow position, growth and investment opportunities, corporate tax etc. However, the results widely vary across the

countries. Therefore, the present paper examines the trend and pattern of different dividend decision variables of private, public, and sample Indian manufacturing companies. An independent t-test was also used to study the relationship between private, public, and sample manufacturing companies.

LITERATURE REVIEW

Among the early studies on the determinants of the dividend payout ratio, Linter (1956) was the first to conduct his research in this area; he suggests that firms have target payout ratios and adjust dividends to earnings with a lag. Miller and Modigliani (1961) illustrate that in a perfect capital market, dividend policy does not affect the firm's value which is, later on, supported by Baker and Wayland (2015) and Yusof and Ismail (2016). Studies by Al-Najjar (2009), Pourheydari (2009), and Abor and Bokpin (2010) supported the signaling hypothesis of dividends that more profitable firms tend to issue higher dividends in order to indicate the prospect of firm's profitability in the future. The same results are also revealed by Pandey (2003) for Malaysian firms, Sura, Pal, and Bodla (2006) in the context of the Indian banking industry, and Mishra and Narender (1996) for Indian SOEs. In addition, studies like Manos(2002), Al-Malkawi (2007), and Denis and Osobov (2008) highlighted a positive and significant relationship between dividend payments and firm size. Highly liquid firms generally follow a higher payout ratio, as depicted by Jabbouri (2016) and Adelegan (2002) in their studies. Later, their findings are supported by Kumar and Sujit (2018) and Das (2017) for Indian manufacturing firms.

Linter(1956) identified the lagged dividend as a significant determinant of dividend policy and positively impacted the current-year payout ratio. Studies carried out by Pourheydari (2009), Baker, Veit, and Powell (2001), and Baker and Kapoor (2015) highlighted that pattern of past dividends serves as a crucial factor in payout decisions. In addition, researchers like Amidu and Abor (2006), Anastassiou (2007), and Tripathy (1999) explored that, generally, small-size firms would like to retain cash for future investment instead of dividend payments. In contrast, relatively larger firms distribute more funds through a cash dividend. In this regard, a significant and positive relationship between cash flow and dividend payouts is affirmed by Khan and Shamim (2017), Afza and Mirza (2011), and George and Kumudha (2006). In addition, researchers like Sura, Pal, and Bodla (2006) and Baker, Farrelly, and Edelman (1985) tried to examine the impact of capital expenditure on dividend decisions. According to

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Damodaran (2001) and Myers (1984), dividend decisions should be taken in light of available investment opportunities and financing options. Later on, Mahakud (2005) and Kumar and Sujit (2018) examine a positive and significant relationship between sales growth and dividend.

After an extensive literature review, we found that profitability, the stability of earnings, size of the firm, liquidity, lagged dividend, cash flow, and capital expenditure factors are some significant determinants of dividend policy, and the role of these factors varies across the period, countries and industries.

OBJECTIVES OF STUDY

The present study has the following objectives.

- To compare the trend and pattern of dividend decision variables of Indian public, private, and sample manufacturing companies.
- To examine the difference between dividend decision variables for public, private, and sample Indian manufacturing companies.

SAMPLING AND DATABASE

The study is based on secondary data from the PROWESS IQ database maintained by the Centre for Monitoring Indian Economy (CMIE) and other sources such as www.bse.com; in.finance.yahoo.com. From April 2000 to March 2020, 33 public and 37 private Indian manufacturing companies were selected using convenience sampling, with banking and financial services companies excluded from the data set.

The study's sample companies are selected based on the following criteria: -

1. Companies are listed on the Bombay Stock Exchange.
2. Only Indian companies will be considered.
3. Banks and financial services companies shall be excluded from the sample.
4. Throughout the study period, all selected companies will continue to trade.

RESEARCH METHODOLOGY

Descriptive statistics, including averages, standard deviation, minimum, maximum, and skewness, are computed to examine the trend and pattern of dividend decision variables of

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Indian manufacturing companies. In addition, an independent sample t-test is also used to examine the significance of the difference between said companies.

SELECTION AND COMPUTATION OF VARIABLES

The present study identifies vital financial variables such as PAT, lagged dividend, cash flow, capital expenditure, liquidity, and firm size to achieve the abovementioned objectives. The dividend payout ratio (DPR) is calculated as a dependent variable.

Independent Variables

The study's independent variables consist of PAT, lagged dividend, cash flow, capital expenditure, firm size, and liquidity. These variables are explained as follows.

Profits after Taxes (PAT): Lintner's major work (1956) demonstrated that earnings are the most important predictors of dividend policy. Larger and more profitable corporations pay higher dividends than smaller and less profitable companies, according to studies undertaken by Abor (2010), Abor and Amidu (2006), and Chowdhury, Maung, and Zhang (2014). It is calculated as follows:

Profits after Taxes (PAT) = Revenue – Expenses

Lagged Dividend: The last year dividend is termed as lagged dividend. According to Linter (1956), current-year profitability and lagged dividend are essential factors in predicting changes in current-year dividends. Al-Malkawi (2007) and Yusof and Ismail (2016) projected that lagged dividends would positively impact the current year's dividend policy. This variable is computed using the cash dividends paid by the corporation one year prior to the year under consideration. (Bodla, Pal, and Sura, 2007).

Lagged Dividend = Dividend prior to one year (year under consideration)

Cash Flow: Cash flow is an essential consideration in dividend decision-making. A large body of research (Samet and Jarboui (2017), Al-Kuwari (2009), Chen, Chou, & Lee (2014), and Al-Ajmi and Hussain (2011) shows a positive relationship between cash flows and dividend policy. According to, Bodla, Pal, and Sura (2007), the cash flow variable is measured as follows:

Cash Flow = Profit after tax + Depreciation expense

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Capital Expenditure: Some studies, such as those conducted by Labhane (2017), Bodla, Pal, and Sura (2007), and Troung and Heaney (2007), found an inverse relationship between capital expenditure and dividend payout. In this study, we derived the capital expenditure variable from the cash flow statement for each fiscal year, which explicitly indicates capital expenditure in fixed assets only.

Capital Expenditure = Cash outflow due to the purchase of fixed assets

Liquidity: A dividend payment represents a cash outflow for a corporation. A more liquid company can pay a higher dividend due to excess cash, but a less liquid company can only pay a smaller dividend due to a cash shortage. The current ratio, defined as the ratio of current assets to current liabilities, is used to assess a company's liquidity position. (Kapoor, Mishra, and Anil (2010), Boţoc and Pirate (2014), Lehane (2017), Patra, Poshakwale, and Yong (2012).The formula for calculating liquidity is as follows:

Current Ratio = Current Assets/Current Liabilities

Firm Size: Smaller companies pay lower dividends because it is more difficult for them to raise funds. In contrast, large companies have easier access to the capital market and thus rely less on internal funds, resulting in more excellent dividend payment capability (Osobov (2008), Aivazian (2003), Al-Twaijry (2007), Erotic (2005). The natural logarithm of the book value of total assets is used as a proxy for firm size in this study (Abor & Amidu, 2006; Hussainey, Mgbame, and Mgbame, 2011; Thakur & Kannadhasan, 2018).

Firm Size= Natural Log of Total Assets (LTA)

Dependent Variable

In the present study, the dividend payout ratio (DPR) is considered a dependent variable to examine the factors that influence the dividend policy decisions of firms.

Dividend Payout Ratio: It is calculated as a ratio of dividend per share to earnings per share as used by earlier researchers like Amidu and Abor (2006), Patra, Poshakwale and Yong (2012), Arif and Akbar (2013), Boţoc and Pirtea (2014), and Labhane (2017) in their study.

Dividend Payout Ratio = Dividend Per Share/Earning Per Share.

RESULTS AND DISCUSSION

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PROFITS AFTER TAXES (PAT)

Table -1 presents the summary statistics of profit after tax of 70 manufacturing companies comprised of 37 private and 33 public manufacturing companies over the study period 2001-2020. The table exhibits the average profit after tax data, minimum and maximum value, standard deviation, and skewness of profit after tax for private, public, and all sample companies. It is reported from the table that the average profit after tax is continuously increasing and showing an upward trend throughout the study period except for the years 2008-09 and 2019-20. Although the rate of increasing average profit after tax is higher in private companies compared to public and sample companies. The minimum and maximum PAT for private manufacturing stood at Rs -2828.52 crore, i.e., loss during 2013-14 and Rs 35163.03 crore in 2018-19, respectively.

Public companies have registered Rs -4021.44, i.e., loss in 2015-16 and Rs. 26764.60 crores during 2018-19 as the minimum and maximum PAT, respectively. As far as sample companies are concerned, their minimum PAT reported throughout the study period is Rs. -4021.44 crore in 2015-16, and their maximum PAT registered at Rs. 35163.03 during 2018-19. The above statistics show a considerable variation in the amount of profit after tax because of a few large companies, which unduly affect the overall average PAT of said firms. The table-1 clearly shows that the skewness value is at a high level and is more or less similar in all cases, indicating that the majority of large-sized companies have higher PAT than the average PAT of concerned manufacturing companies over the study period.

The table also disclosed that the compound annual growth rate of profit after tax in private manufacturing firms is 14.38 percent, which means the average PAT of the sample private manufacturing companies, is growing annually at 14.38 percent. In contrast, the profit after tax of public companies is growing at the annual rate of 7.47 percent, which is comparatively low as private firms.

As far as sample firms are concerned, their profit after tax is growing at 10.95 percent, which lies between private and public companies. So, it can be concluded that the CAGR of public companies is lagging behind sample companies and private companies, which indicates that private manufacturing companies have registered significant growth in their after-tax profits, which results in more and more dividend payments to shareholders by latter firms.

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Figure 1 highlighted the graphical presentation of the average PAT of private, public, and sample manufacturing companies over the study period 2000-01 to 2019-20. The graph depicts that in the first decade, public companies registered a higher average PAT compared to private companies and sample companies, but after that average PAT of public companies slightly started to fall.

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Table -1 Summary Statistics of Profit after Tax (PAT)

Figures are in crore rupees

Years	Private Companies					Public Companies					Sample Companies				
	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness
2000-01	287.93	-269.40	2645.62	502.64	3.32	573.60	-728.66	5228.78	1170.10	2.86	422.61	-728.66	5228.78	887.36	3.59
2001-02	344.31	1.47	3242.70	606.00	3.55	569.58	-1706.89	6197.87	1330.88	2.86	450.51	7	6197.87	1012.86	3.53
2002-03	418.64	6.21	4104.31	742.53	3.82	896.75	-410.59	10529.32	2129.91	3.59	644.03	-410.59	10529.32	1565.04	4.64
2003-04	541.69	11.19	5137.11	914.19	3.86	1122.03	1.19	8664.43	2036.98	2.70	815.28	1.19	8664.43	1563.81	3.45
2004-05	748.85	24.94	7571.68	1367.94	3.87	1362.02	0.94	12983.05	2661.32	3.23	1037.92	0.94	12983.05	2087.11	3.82
2005-06	950.17	18.40	9069.34	1596.81	3.96	1362.12	1.39	14430.78	2749.45	3.76	1144.38	1.39	14430.78	2208.86	4.16
2006-07	1349.83	61.26	11943.91	2160.85	3.59	1756.97	4.47	15642.92	3177.38	3.12	1541.77	4.47	15642.92	2675.85	3.39
2007-08	1689.76	63.05	19506.39	3289.34	4.68	1890.82	6.18	16701.65	3368.77	3.17	1784.55	6.18	19506.39	3304.31	3.85
2008-09	1632.55	39.00	15309.32	2702.88	3.93	1766.67	21.69	16126.32	3193.37	3.33	1695.78	21.69	16126.32	2923.26	3.54
2009-10	1921.46	37.65	16235.67	2890.09	3.67	2138.82	-177.27	16767.56	3624.51	2.74	2023.93	-177.27	16767.56	3234.56	3.08
2010-11	2494.77	75.44	20286.47	3957.27	3.21	2277.80	31.89	18924.00	3795.23	3.06	2392.48	31.89	20286.00	3855.17	3.08
2011-12	2302.41	-42.61	20040.04	3648.52	3.56	2495.98	45.80	25122.92	4725.14	3.77	2393.67	-42.61	25122.92	4160.44	3.72
2012-13	2536.34	-231.56	21003.73	3867.72	3.39	2573.47	-79.87	20925.70	4399.72	2.89	2553.85	-231.56	21003.00	4096.66	3.06
2013-14	2865.35	-2828.52	21984.63	4256.74	2.83	2822.58	4.68	22094.81	4842.41	2.73	2845.19	-2828.52	22094.81	4508.79	2.73
2014-15	3128.09	-1474.13	22736.98	4475.49	2.79	2618.51	0.67	17732.95	4102.53	2.42	2887.86	-1474.13	22736.00	4280.38	2.59
2015-16	3311.58	-1087.51	27384.82	4988.04	3.52	2585.06	-4021.44	16593.00	4698.40	1.94	2969.08	-4021.44	27384.00	4832.42	2.78
2016-17	3715.94	-22.84	31425.37	5640.33	3.66	3075.42	-2833.24	19106.40	5260.73	2.00	3413.98	-2833.24	31425.00	5434.78	2.91
2017-18	3980.42	305.64	33612.38	6118.73	3.58	3274.99	-481.71	21346.12	5388.44	2.30	3647.86	-481.71	33612.00	5755.41	3.06
2018-19	4305.80	-868.01	35163.03	6383.84	3.47	3615.04	33.33	26764.60	5854.95	2.53	3980.16	-868.01	35163.00	6105.86	3.03
2019-20	4229.97	144.85	30903.56	5853. 21	3.13	2423.96	-227.11	13444.54	3710.76	1.92	3378.56	-227.11	30903.00	5008.52	3.11
CAGR	14.38 percent					7.47 percent					10.95 percent				

Source: Prowess IQ

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During 2011-12 to 2013-14, said companies registered somewhat likely after-tax profits,

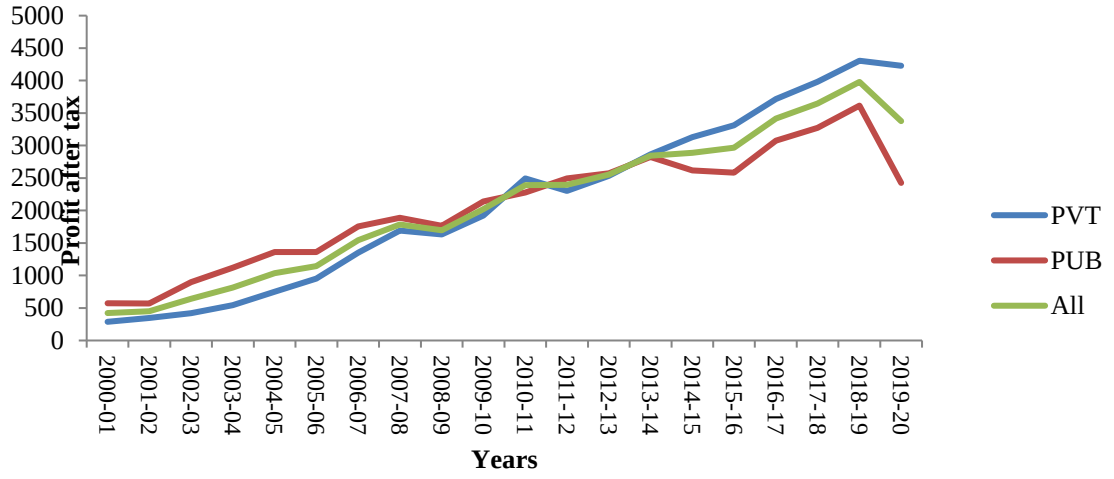

Figure 1

which coincides. Nevertheless, afterward, the average PAT of private and sample manufacturing companies started increasing at a high rate compared to public manufacturing companies. From the above graph, it can be observed that public companies have faced a drastic downfall in their average PAT during the year 2019-20 as compared to private and sample manufacturing companies.

An attempt has been made to test the hypothesis that there is no significant difference in the average PAT of private, public, and sample Indian manufacturing companies. To test this claim, an independent sample t-test has been implied on the average profit after tax of sample manufacturing companies and private and public companies.

Table - 2 Independent Sample t-test matrix

	Private Companies	**Public Companies**	**Sample Companies**
Private Companies	**t-value** **p-value**	0.216 (0.024)*	0.344 (0.408)
Public Companies	**t-value** **p-value**		0.130 (0.176)

Sources: Computed from Annual Reports

Table 2 shows two statistics: the first is the t-value, and the second is the corresponding p-value. The study compares the average PAT of private, public, and sample companies. The null hypothesis is rejected in the case of the average PAT of private and public companies, where the p-value is 0.024, indicating that the average PAT of private companies is significantly

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different from the average PAT of public companies because the p-value is significant at the level of five percent.

The study also tested the null hypothesis that there is no significant difference between the average PAT of private and sample manufacturing companies, and a p-value of 0.408, as depicted in the table, means that the null hypothesis is accepted and there is no significant difference between their average PAT. The null hypothesis is also accepted in the case of the average PAT of public and sample companies because the p-value of 0.176 reported no significant difference between their average PAT, as the p-value is significant at a five percent significance level.

LAGGED DIVIDEND

Table -3 presents the summary statistics of the lagged dividend of 70 manufacturing companies comprised of 37 private and 33 public manufacturing companies over the study period 2001-2020. The table displayed the average dividend, minimum and maximum value, standard deviation, and skewness of lagged dividends for private, public, and all sample companies. It is reported from the table that the average lagged dividend is continuously increasing and showing an upward trend throughout the study period except for the year 2019. However, the rate of increasing average dividend is higher in private companies compared to public and sample companies. The minimum lagged dividend is Rs 1.04 crore and Rs 13768.42 crore in private firms, whereas public companies have Rs 0.00 and Rs. 18317.92 crore as the minimum and maximum lagged dividend. It indicates a considerable variation in the amount of average lagged dividend because of the existence of a few large companies, which unduly affect the overall average lagged dividend of said companies. The table-3 clearly shows that skewness is slightly higher in public firms compared to private and sample companies, which indicates that the majority of public companies have a higher lagged dividend than the average lagged dividend of said companies over the study period.

The value of CAGR revealed the compound annual growth rate of lagged dividends in respective firms. It is observed that the value of CAGR in private firms is 17.02 percent, which means the average lagged dividend of the sample private manufacturing companies is growing annually at the rate of 17.02 percent.

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Table -3 Summary Statistics of Lagged Dividend

Figures are in crore rupees

Years	Private Companies					Public Companies					Sample Companies				
	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness
2000-01	68.35	1.04	650.51	125.27	3.47	161.96	0.00	1770.50	341.58	3.69	112.48	0.00	1770.50	253.99	4.68
2001-02	76.25	1.18	770.25	145.72	3.68	166.40	0.05	1568.63	320.24	3.14	118.75	0.05	1568.63	246.36	3.85
2002-03	105.52	1.25	1100.64	210.86	3.66	186.95	0.16	1996.33	386.61	3.62	143.91	0.16	1996.33	306.91	4.07
2003-04	126.47	1.45	1210.73	229.86	3.55	338.68	0.00	4278.06	826.33	3.99	226.51	0.00	4278.06	596.34	5.34
2004-05	192.53	2.32	1599.22	322.24	2.89	349.60	0.23	3422.45	735.37	3.20	266.58	0.23	3422.45	557.85	3.87
2005-06	199.00	2.54	1100.59	285.63	2.03	445.74	0.19	5703.45	1060.35	4.19	315.32	0.19	5703.45	761.18	5.58
2006-07	269.84	6.72	1393.96	374.52	1.81	494.77	0.21	6417.37	1179.09	4.33	375.88	0.21	6417.37	854.83	5.51
2007-08	287.35	12.90	1440.44	386.12	1.84	597.27	0.29	6631.03	1258.41	3.85	433.46	0.29	6631.03	914.60	5.01
2008-09	374.40	14.05	1976.11	538.62	1.97	568.33	0.42	6844.34	1280.98	4.10	465.82	0.42	6844.34	960.14	4.77
2009-10	354.75	14.05	1896.82	489.21	1.99	581.36	0.55	6844.01	1278.04	4.11	461.58	0.55	6844.01	946.24	4.97
2010-11	489.84	18.69	3818.31	783.50	2.82	725.61	1.10	7057.47	1403.39	3.37	600.99	1.10	7057.47	1117.02	3.67
2011-12	617.56	29.63	3445.07	889.07	2.20	734.50	1.65	7486.33	1436.87	3.64	672.69	1.65	7486.33	1171.91	3.57
2012-13	617.14	43.05	3518.43	813.89	2.18	888.27	2.75	8340.81	1813.24	3.22	744.96	2.75	8340.81	1374.41	3.76
2013-14	714.76	32.22	4148.70	1028.39	2.30	1086.75	2.75	8843.29	2144.86	2.86	890.13	2.75	8843.29	1649.33	3.33
2014-15	796.86	76.68	4771.84	1081.30	2.30	1415.45	2.75	18317.92	3459.60	4.12	1088.49	2.75	18317.92	2501.50	5.31
2015-16	978.07	83.60	5111.31	1307.81	2.07	1155.45	1.37	13074.23	2620.30	3.74	1061.69	1.37	13074.23	2021.02	4.02
2016-17	1491.84	132.37	12802.87	2458.98	3.24	1381.18	1.92	17306.50	3197.17	4.21	1439.68	1.92	17306.50	2810.42	3.87
2017-18	1459.75	25.61	12421.61	2470.99	3.07	1778.80	2.63	12353.22	3184.15	2.37	1610.16	2.63	12421.61	2813.08	2.64
2018-19	1190.16	153.23	7500.77	1639.78	2.49	1565.37	4.91	10242.28	2669.19	2.37	1367.04	4.91	10242.28	2177.76	2.62

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2019-20	1584.59	146.55	13768.42	2728.30	3.22	1593.99	4.84	9671.90	2737.61	2.15	1589.02	4.84	13768.42	2712.82	2.66
CAGR	**17.02%**					**12.11 percent**					**14.16 percent**				

Source: Prowess IQ

In contrast, lagged dividends of public companies are growing at the annual rate of 12.11 percent, which is comparatively low compared to private firms as depicted by Table - 3. So far as sample firms are concerned, their lagged dividend is increasing at 14.16 percent, which lies between private and public companies. So, it can be concluded that the CAGR of public companies are lagging behind sample companies as compared to private concerns, which indicates that dividend is paid regularly by latter firms, which is a perfect sign for private corporations as well as for the whole economy.

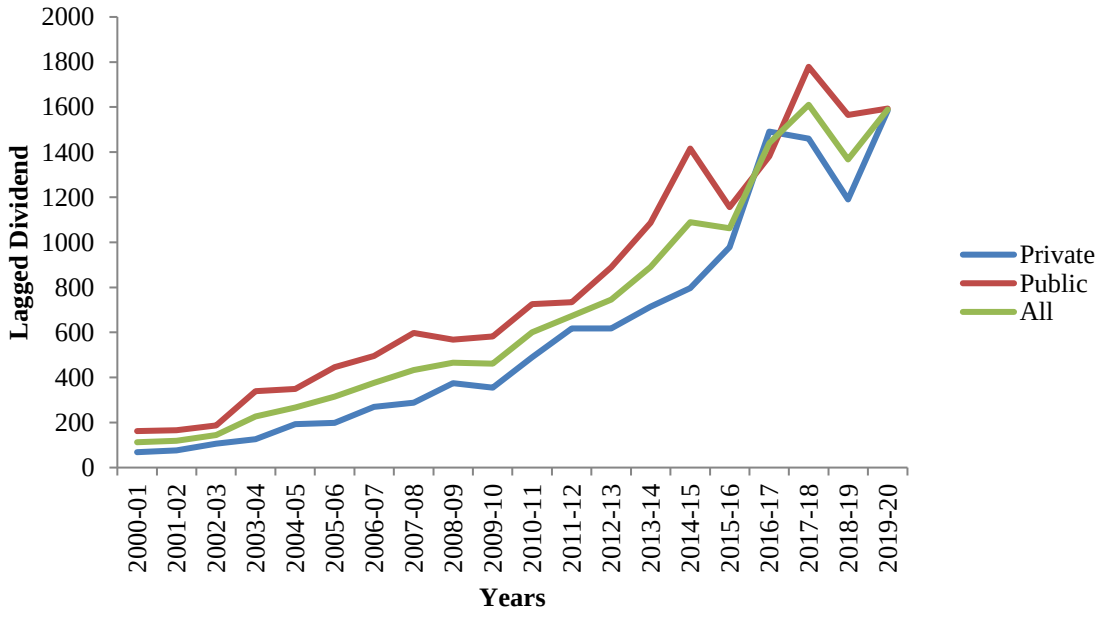

Figure 2

Figure-2 displays the graphical presentation of an average lagged dividend of private, public, and sample manufacturing companies. It is clearly shown that the average lagged dividend of public and sample companies is higher as compared to private companies. The lagged dividend of private companies increased steadily from 2001-2015, but in the year 2016, lagged dividend increased magnificently. Afterward, it started declining and again started rising in the year

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2020. In the same way, the average lagged dividend of public companies grew continuously at a steady rate until 2014 but increased drastically in 2015 and 2018 due to market conditions. However, year wise average lagged dividend of public companies is higher than private and sample manufacturing companies.

In this section, an effort has been made to test the hypotheses that no significant differences exist among average lagged dividends of private, public, and sample Indian manufacturing companies. To test this claim, an independent sample t-test has been applied to the average data of lagged dividends of said companies.

Table – 4 Independent Sample t-test matrix

	Private Companies	**Public Companies**	**Sample Companies**
Private Companies	**t-value** **p-value**	-1.314 (0.197)	-0.629 (0.533)
Public Companies	**t-value** **p-value**		-0.693 (0.493)

Sources: Computed from Annual Reports

Table 4 presents the independent sample t-test matrix of lagged dividend, which shows two statistics: the t-value and their corresponding p-value. The study compares the average lagged dividend of private, public, and sample companies. The null hypothesis is accepted in the case of the average lagged dividend of private and public companies because their p-value is 0.197, which indicates that there is no significant difference between their average lagged dividends as the p-value is significant at the level of five percent. The study also examines the null hypothesis of there is no significant difference between the average lagged dividend of private and sample companies, and their results confirmed that a p-value of 0.533 means an insignificant difference between their average lagged dividend. Results of the table-4 highlighted that the mean lagged dividends of public and sample manufacturing companies do not differ significantly because their p-value is 0.493, which is significant at the level of five percent.

CASH FLOW

Table - 5 provides the summary statistics of the cash flow of private, public, and sample manufacturing companies for the study period 2001-2020. The study has taken a sample of 37

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private and 33 public manufacturing companies. The table-5 exhibited the data of average cash flow, range, standard deviation, and skewness of cash flow for private, public, and all sample companies, and it is observed that average cash flow is continuously rising an upward trend during the study period except for the years 2008-09 and 2019-2020.

Although the average cash flow is more in public and sample manufacturing companies than in private companies except for years, i.e., 2015-16 & 2019-2020, the rate at which average cash flow is increasing is observed to be higher in private companies. Regarding the range of cash flow, the minimum cash flow is Rs. 7.40 crore in private companies and Rs. 3.04 in public and sample manufacturing concerns.

The maximum cash flow in private and the sample is Rs. 45851.00 crores, whereas public companies have slightly less than earlier companies, i.e., Rs. 41616.85 crores as their maximum cash flow.

The table - 5 also shows the value of the standard deviation of said companies and highlights that a large scale of variation exists in values of cash flows due to the presence of some large companies, which excessively disturbs the overall average cash flows of said manufacturing companies. It is also found that the value of skewness is slightly higher in the case of private and sample companies as compared to public manufacturing companies, which highlighted that majority of private and sample companies have higher cash flows than their concerned average cash flows for the study period. Higher CAGR in private companies revealed that said firms maintain more cash flows than public and sample concerns in their business operations.

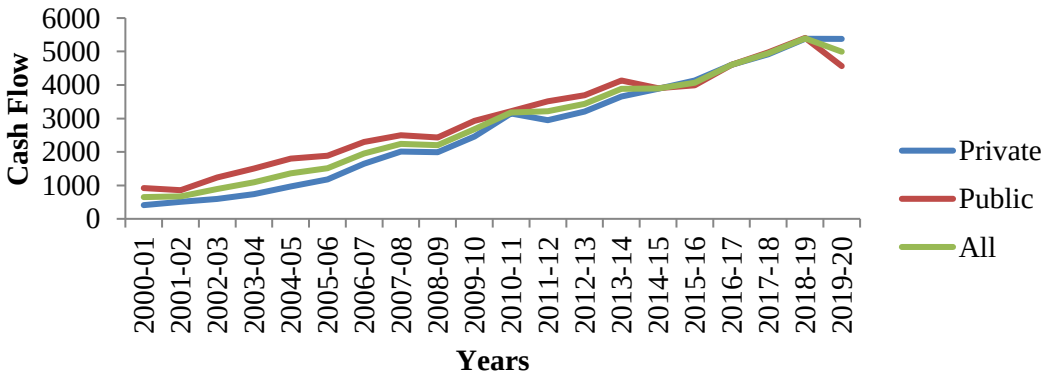

Figure 3

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Table - 5 Summary Statistics of Cash Flows

Figures are in crore rupees

Years	Private Companies					Public Companies						
	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.
2000-01	409.65	7.40	4210.73	734.88	4.15	918.67	3.04	7875.77	1765.47	2.96	649.61	3.04
2001-02	509.49	10.48	6058.84	1022.01	4.74	856.27	4.11	6984.40	1570.00	2.83	672.97	4.11
2002-03	593.40	11.28	6941.40	1175.05	4.67	1232.06	6.16	13038.50	2660.82	3.46	894.48	6.16
2003-04	734.13	23.59	8384.13	1419.00	4.64	1499.01	6.72	11591.46	2704.82	2.67	1094.72	6.72
2004-05	966.63	34.60	11295.18	1945.31	4.50	1803.94	6.57	17292.33	3504.87	3.26	1361.36	6.57
2005-06	1182.89	69.75	12470.25	2136.27	4.39	1887.64	7.02	21251.98	3978.71	3.99	1515.13	7.02
2006-07	1644.91	101.79	16759.06	2889.11	4.25	2298.63	13.45	22322.60	4391.77	3.44	1953.09	13.45
2007-08	2012.06	97.24	24353.53	4058.07	4.90	2493.99	21.37	24295.05	4718.50	3.53	2239.26	21.37
2008-09	1993.27	51.19	20504.61	3513.42	4.36	2433.00	36.90	24696.73	4664.52	3.80	2200.57	36.90
2009-10	2458.42	46.02	26732.20	4480.25	4.68	2929.34	43.10	26540.38	5314.56	3.27	2680.43	43.10
2010-11	3145.86	84.78	33894.00	5862.55	4.36	3212.34	52.14	31195.98	5912.92	3.67	3177.20	52.14
2011-12	2949.24	93.74	31434.00	5348.48	4.48	3511.09	61.14	38372.58	6966.90	4.20	3214.11	61.14
2012-13	3201.65	159.87	30468.00	5273.34	4.12	3691.07	58.65	35476.77	6802.08	3.58	3432.38	58.65
2013-14	3654.02	306.43	30773.00	5451.14	3.71	4135.03	29.73	39631.74	7669.57	3.47	3880.78	29.73
2014-15	3889.30	442.97	31406.00	5667.60	3.51	3902.98	22.20	33036.46	6612.90	3.07	3895.75	22.20
2015-16	4135.79	573.47	36225.00	6256.10	4.07	3994.31	11.30	28171.79	6659.39	2.22	4069.09	11.30
2016-17	4601.22	399.44	40095.00	6981.96	3.95	4604.96	25.97	31904.42	7743.22	2.27	4602.99	25.97
2017-18	4922.66	630.05	43417.00	7614.25	3.92	4972.56	25.12	35557.66	8457.89	2.43	4946.18	25.12
2018-19	5382.11	436.79	45851.00	8041.57	3.84	5407.52	47.01	41616.85	9083.91	2.60	5394.09	47.01
2019-20	5377.54	320.31	40714.00	7371.34	3.43	4568.57	41.31	33768.58	7545.17	2.55	4996.17	41.31
CAGR	13.74%					8.35 percent						

Source: Prowess IQ

Figure 3 exhibits the graphical presentation of average cash flows of private, public, and sample manufacturing companies for the period 2000-01 to 2019-20, and it can be observed that the average cash flow of private companies is lagging as compared to that of public and sample companies in the first decade of the study, but during the year 2010-11, their average cash flows become more or less similar to each other. However, it is noticed that the average cash flows of said companies coincide with each other from 2013-14 to 2018-19. The graph pattern indicated that in 2019-2020, the cash flows of private, public, and sample manufacturing companies fell suddenly. Nevertheless, the downfall rate of cash flows is registered much higher in public companies compared to private and sample companies.

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Further, the study has tried to examine the null hypothesis of no significant difference in the average cash flows of private, public, and sample Indian manufacturing companies. To test this claim, an independent sample t-test has been performed on the data of average cash flows of said companies.

Table - 6 Independent Sample t-test matrix

	Private Companies	Public Companies	Sample Companies
Private Companies	**t-value** **p-value**	-0.676 (0.503)	-0.305 (0.762)
Public Companies	**t-value** **p-value**		0.376 (0.709)

Sources: Computed from Annual Reports

Table- 6 displays the independent sample t-test matrix of cash flows for concerned companies with the help of the t-value and their corresponding p-value. The study compares the average cash flows of private, public, and sample companies. The null hypothesis of no significant difference between the average cash flows of private and public companies is accepted because their p-value is 0.503, which is significant at the five percent level. Further, the null hypothesis is also true in the case of equality of average cash flows of private and sample companies; the p-value of 0.762 indicated that the average cash flows of private companies do not differ significantly from the average cash flows of sample companies because the p-value is significant at the five percent. The study also accepted the null hypothesis that an insignificant difference exists between the mean cash flows of public and sample companies as their p-value, i.e., 0.709, is significant at the five percent level.

CAPITAL EXPENDITURE

The summary statistics of capital expenditure of private, public, and sample manufacturing companies for the study period 2001-2020 are shown in table-7. The table displayed the average capital expenditure incurred by said companies, minimum and maximum value, standard deviation, and skewness of capital expenditure for private, public, and all sample companies. It is clear from the table that average capital expenditure has a zigzag pattern throughout the study period; however, the level of instability is recorded high in private companies compared to public and sample manufacturing companies.

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The minimum capital expenditure incurred is Rs. 0.95 crore by public and sample companies in the year 2000-2001, which is relatively low, i.e., Rs. 5.55 crore incurred by private manufacturing firms during the year 2001-02. The private and sample companies have incurred Rs. 74975.03 crores as their maximum capital expenditure throughout the study period.

In contrast, public companies spent Rs. 45154.06 crores on capital expenditure operations during 2019-2020. The study has found a massive variation in average capital expenditure during the whole study period, indicating that some large companies adversely affect the mean average capital expenditure of private, public, and sample manufacturing companies. The table-7 also exhibits that skewness is higher in private and sample companies compared to public firms, which indicates that most private and sample companies have incurred more capital expenditure than their average capital expenditure. However, a relatively low skewness value for public companies reflected that companies under the concerned group incurred a similar amount of capital expenditure.

So, these companies do not have so much variation. The above table examines the annual growth rate of capital expenditure with the help of CAGR. It dictated that the CAGR of private companies is 8.67 percent, which means the average capital expenditure incurred by private manufacturing companies is growing annually at 8.67 percent. In contrast, public companies have a compound annual growth rate of 12.89 percent, which is comparatively high compared to private companies, indicating that public companies are spending more and more on their long-term investment projects. In this way, these companies are left with fewer funds, resulting in lower dividend payouts. So, it can be concluded that private companies are spending the lesser funds on their long-term investment projects, leading to more and more dividend distribution among shareholders.

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Table - 7 Summary Statistics of Capital Expenditure

Figures are in crore rupees

Years	Private Companies					Public Companies					Sample Companies				
	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness
2000-01	676.45	7.68	19701.05	3221.21	6.04	453.62	0.95	2758.45	718.53	1.96	571.40	0.95	19701.05	2380.26	7.76
2001-02	233.29	5.55	3257.57	554.17	4.85	623.42	1.23	5089.24	1269.16	2.59	417.21	1.23	5089.24	972.49	3.46
2002-03	289.45	5.77	2682.58	593.11	3.52	741.27	1.61	8427.16	1589.34	3.87	502.45	1.61	8427.16	1186.01	4.85
2003-04	263.38	9.09	1710.84	376.46	2.33	543.28	1.75	3207.97	938.03	2.07	395.33	1.75	3207.97	708.39	2.77
2004-05	1075.71	18.26	29187.26	4768.23	6.01	920.55	1.93	10937.65	2092.85	3.79	1002.56	1.93	29187.26	3728.22	6.73
2005-06	620.06	39.53	11344.62	1837.36	5.83	1125.80	2.21	10548.26	2582.15	2.96	858.48	2.21	11344.62	2217.70	3.89
2006-07	510.66	8.58	3038.32	644.68	2.16	1196.30	2.34	8977.46	2284.59	2.41	833.89	2.34	8977.46	1660.19	3.42
2007-08	1774.38	31.75	43306.57	7066.82	5.95	1331.86	2.52	13460.41	2888.68	3.16	1565.76	2.52	43306.57	5474.94	6.80
2008-09	2165.76	14.09	58112.12	9498.67	5.99	1605.57	3.04	17928.75	3558.51	3.59	1901.67	3.04	58112.12	7281.88	7.03
2009-10	927.40	16.35	12834.04	2111.31	5.27	2068.20	3.17	19833.47	4548.21	2.99	1465.21	3.17	19833.47	3499.76	3.86
2010-11	824.60	45.24	10337.04	1722.66	4.98	1951.27	2.34	18113.75	4058.53	2.83	1355.74	2.34	18113.75	3083.54	3.73
2011-12	1215.83	5.70	14687.22	2638.79	4.28	2639.48	2.15	25116.87	6048.34	2.90	1886.98	2.15	25116.87	4594.68	3.70
2012-13	1173.45	31.41	11646.22	2349.33	3.71	3168.24	2.42	30689.38	6384.47	3.00	2113.85	2.42	30689.38	4773.83	3.93
2013-14	1417.94	24.48	13946.00	2662.43	3.67	2883.51	3.38	20537.29	5487.63	2.25	2108.85	3.38	20537.29	4267.00	2.93
2014-15	2730.21	21.01	41650.00	7930.20	4.28	3771.08	3.64	30354.14	7913.39	2.61	3220.91	6.14	41650.00	7882.07	3.40
2015-16	1969.00	98.06	25441.04	4797.34	4.14	3558.15	3.96	26954.33	7187.66	2.32	2718.17	3.96	26954.33	6050.23	2.95
2016-17	2539.03	54.81	55056.00	8930.38	5.96	4056.22	8.35	28825.81	8235.47	2.26	3254.28	8.35	55056.00	8581.70	4.29
2017-18	1544.34	102.07	12029.00	2241.23	3.18	3026.48	5.07	19557.28	5266.88	2.11	2243.06	5.07	19557.28	4005.13	2.83
2018-19	4569.10	96.58	113971.00	18620.11	5.95	4670.23	4.45	39067.61	8847.01	2.46	4616.78	4.45	113971.00	14737.47	6.33
2019-20	3564.85	117.53	74975.03	12199.43	5.88	5122.84	15.11	45154.06	9533.59	2.78	4299.33	15.11	74975.03	10973.31	4.87
CAGR	8.67 percent					12.89 percent					10.62 percent				

Source: Prowess IQ

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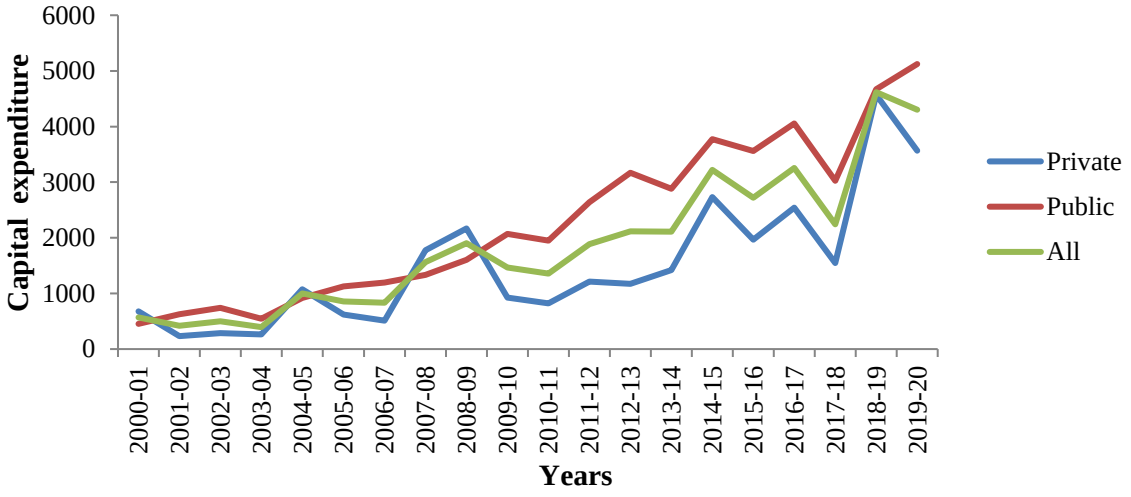

Figure 4

Figure 4 presents the average capital expenditure incurred by private, public, and sample manufacturing companies from 2001 to 2020. It is clearly shown that except for the years 2007-08 and 2008-09, the average capital expenditure incurred by private companies is relatively low as incurred by public and sample manufacturing companies. During 2017-18, it faces a drastic downfall in average capital expenditure due to the availability of low profits with the firms. However, the rate of downfall is noticed quietly high in the case of private manufacturing companies. In 2018-19, private companies registered around three times the growth in their average capital expenditure, which is significantly higher than public and sample manufacturing companies. It is clear from the graph that during 2019-2020, private and sample manufacturing companies under study notably showed a downfall in their respective average capital expenditure. In contrast, considerable growth can be seen in public manufacturing concerns. Table-8 depicts the comparative study of average capital expenditure incurred by private, public, and sample manufacturing companies with the help of an independent sample t-test matrix.

Table - 8 Independent Sample t-test matrix

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	Private Companies	Public Companies	Sample Companies
Private Companies	**t-value** **p-value**	-1.856 (0.716)	-0.956 (0.345)
Public Companies	**t-value** **p-value**		0.951 (0.348)

Sources: Computed from Annual Reports

Table- 8 shows the results of the independent t-test with the help of two statistics: the first is the t-value, and the second is their respective p-value. The null hypothesis is true that there is an insignificant difference between the average capital expenditure of private and public manufacturing companies because the p-value, i.e., 0.716, is significant at the level of five percent. In addition, the pair of private and sample companies also revealed the equality of their mean capital expenditure over the study period and observed a p-value of 0.345, which means there is an insignificant difference between their average capital expenditure.

The null hypothesis is also accepted in the case of public and sample companies as the p-value of 0.348 reported no significant difference between their average capital expenditure because the p-value is significant at a five percent significance level.

CURRENT RATIO

The summary statistics of the current ratio for private, public, and sample manufacturing companies for the study period 2001-01 to 2019-20 are presented in table-9. The table demonstrates the data of the average current ratio, its minimum and maximum value, standard deviation, and skewness for private, public, and all sample companies. The table shows that the average current ratio for said companies is more or less similar and observed a consistent rise or downfall instead of following a uniform pattern. However, public manufacturing companies have registered a higher current ratio than private and sample companies throughout the study except for the period from 2016-17 to 2019-20. The table has disclosed the minimum and maximum values of 0.18 and 4.30, respectively. On the contrary, public and sample manufacturing companies have recorded 0.17 and 3.89 as their minimum and maximum current ratio, respectively.

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So, the difference between the minimum and maximum current ratio shows that some large companies are unduly affecting the average current ratio for said companies. However, the ideal current ratio for a company should be 2:1. Further, the level of skewness is registered high in private manufacturing companies, which indicates that some major private sector companies are maintaining high liquidity ratio than the average ratio of private companies. On the other hand, public companies have a low level of skewness.

In table 9, private manufacturing companies have registered a compound annual growth rate of 1.67 percent over twenty years of study, five times more than the CAGR, i.e., 0.34 percent of public companies. It indicates that private companies have efficiently managed their current assets and set off their short-term liabilities on time during the study period. On the contrary, no such significant growth can be seen in public manufacturing concerns. So far as sample companies, the CAGR, i.e., 1.04 percent, indicated their business operates efficiently during the study period.

Figure 5 illustrates the average current ratio for private, public, and sample manufacturing companies from 2000-01 to 2019-20. The graph demonstrated that from 2000-01 to 2007-08, the average current ratio of public and sample companies was comparatively high compared to private companies. Nevertheless, from 2007-08 onwards, the average current ratio for respective companies coincides.

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Table - 9 Summary Statistics of Current Ratio

Figures are in times

Years	Private Companies					Public Companies					Sample Companies				
	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness
2000-01	1.37	0.59	3.35	0.70	1.29	1.48	0.17	3.28	0.68	0.74	1.42	0.17	3.35	0.69	1.00
2001-02	1.48	0.46	4.19	0.90	1.50	1.58	0.33	3.37	0.79	0.64	1.53	0.33	4.19	0.85	1.14
2002-03	1.41	0.35	3.80	0.80	1.56	1.58	0.18	3.72	0.82	0.81	1.49	0.18	3.80	0.81	1.15
2003-04	1.24	0.41	3.02	0.63	1.32	1.44	0.40	3.27	0.74	1.10	1.34	0.40	3.27	0.68	1.21
2004-05	1.33	0.32	3.90	0.80	1.64	1.49	0.42	3.60	0.81	1.04	1.41	0.32	3.90	0.80	1.30
2005-06	1.26	0.47	4.04	0.65	2.43	1.55	0.38	3.62	0.91	1.10	1.40	0.38	4.04	0.79	1.62
2006-07	1.51	0.57	4.19	0.77	1.49	1.58	0.37	3.76	0.91	1.21	1.54	0.37	4.19	0.83	1.32
2007-08	1.50	0.67	2.92	0.62	0.80	1.71	0.62	3.83	0.94	1.13	1.60	0.62	3.83	0.79	1.21
2008-09	1.51	0.62	3.47	0.73	1.48	1.57	0.54	3.89	0.92	1.06	1.54	0.54	3.89	0.82	1.23
2009-10	1.65	0.58	3.95	0.87	1.37	1.60	0.50	3.81	0.91	1.23	1.62	0.50	3.95	0.88	1.26
2010-11	1.72	0.80	4.09	0.90	1.60	1.70	0.83	3.85	0.74	1.06	1.71	0.80	4.09	0.82	1.42
2011-12	1.68	0.71	4.09	0.91	1.43	1.74	0.62	3.85	0.79	0.91	1.71	0.62	4.09	0.85	1.21
2012-13	1.63	0.62	4.13	0.76	1.41	1.71	0.41	3.88	0.75	0.84	1.67	0.41	4.13	0.75	1.12
2013-14	1.62	0.24	3.79	0.69	1.31	1.68	0.46	3.85	0.72	0.95	1.65	0.24	3.85	0.70	1.11
2014-15	1.62	0.44	3.82	0.71	1.35	1.82	0.35	3.89	0.87	0.69	1.72	0.35	3.89	0.79	0.99
2015-16	1.84	0.34	3.92	0.94	0.76	1.87	0.58	3.85	0.96	0.53	1.86	0.34	3.92	0.94	0.64
2016-17	1.85	0.46	4.02	0.94	0.73	1.67	0.51	3.85	0.82	0.63	1.76	0.46	4.02	0.88	0.71
2017-18	1.85	0.40	4.02	0.88	0.72	1.54	0.45	3.69	0.81	0.85	1.70	0.40	4.02	0.85	0.77
2018-19	1.93	0.18	4.30	0.92	0.61	1.55	0.53	3.85	0.83	1.08	1.75	0.18	4.30	0.89	0.79

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2019-20	1.91	0.29	3.94	0.93	0.66	1.58	0.52	3.85	0.89	0.98	1.75	0.29	3.94	0.92	0.77
CAGR	**1.67 percent**					**0.34 percent**					**1.06 percent**				

Source: Prowess IQ

Figure 5

Further, the graph depicts that during 2016-17, public manufacturing companies faced a tremendous downfall in their average current ratio from 1.87 percent to 1.67 percent. In the last couple of years, private companies made significant growth in the current ratio compared to public and sample companies, revealing better operational efficiency of private companies.

An independent sample t-test has been conducted on the average data of current ratio for private, public, and sample manufacturing companies to test the hypotheses of whether there is an insignificant difference in their average current ratio.

Table - 10 Independent Sample t-test matrix

	Private Companies	**Public Companies**	**All Companies**
Private Companies	**t-value** **p-value**	-0.493 (0.625)	-0.226 (0.822)
Public Companies	**t-value** **p-value**		0.331 (0.743)

Sources: Computed from Annual Reports

The independent t-test has been shown in table-10 with the help of the t-value and their corresponding p-value. The null hypothesis of equality of average current ratio for private and

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public manufacturing companies is accepted because their p-value is 0.625, which is significant at the five percent level and indicates no significant difference between their average current ratio. Table 10 also disclosed that the average current ratio for private and sample companies does not differ significantly at the five percent level of significance. Further, the null hypothesis is confirmed as the pair of public and sample manufacturing companies revealed an insignificant difference in their mean current ratio for the given study period because the p-value of 0.743 is significant at the five percent level.

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Table - 11 Summary Statistics of Firm Size

Figures are in LN

Years	Private Companies					Public Companies					Sample Companies				
	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness	Average	Min.	Max.	Std. Deviation	Skewness
2000-01	7.13	4.62	10.31	1.31	0.38	8.03	5.01	10.88	1.60	0.09	7.55	4.62	10.88	1.52	0.34
2001-02	7.31	4.91	10.95	1.31	0.53	8.10	5.11	10.96	1.62	0.07	7.68	4.91	10.96	1.51	0.37
2002-03	7.46	5.23	11.06	1.30	0.52	8.25	5.19	11.14	1.61	0.06	7.83	5.19	11.14	1.50	0.37
2003-04	7.60	5.50	11.19	1.27	0.54	8.35	5.36	11.30	1.62	0.05	7.95	5.36	11.30	1.48	0.38
2004-05	7.79	6.00	11.30	1.25	0.56	8.49	5.81	11.46	1.61	0.06	8.12	5.81	11.46	1.46	0.39
2005-06	8.01	6.28	11.44	1.20	0.61	8.60	5.85	11.65	1.64	0.09	8.29	5.85	11.65	1.45	0.42
2006-07	8.26	6.43	11.68	1.24	0.55	8.75	6.09	11.83	1.63	0.13	8.49	6.09	11.83	1.45	0.39
2007-08	8.53	6.72	11.92	1.25	0.66	8.94	6.33	11.76	1.59	0.10	8.72	6.33	11.92	1.42	0.39
2008-09	8.70	6.41	12.41	1.31	0.63	9.11	6.42	11.94	1.59	0.06	8.89	6.41	12.41	1.45	0.35
2009-10	8.86	6.32	12.43	1.30	0.53	9.21	6.51	12.04	1.61	0.09	9.02	6.32	12.43	1.45	0.33
2010-11	9.06	6.46	12.56	1.27	0.50	9.36	6.56	12.14	1.60	0.06	9.21	6.46	12.56	1.43	0.28
2011-12	9.21	6.67	12.60	1.24	0.53	9.48	6.84	12.29	1.60	0.08	9.34	6.67	12.60	1.41	0.30
2012-13	9.36	6.94	12.67	1.21	0.55	9.55	7.01	12.37	1.60	0.15	9.45	6.94	12.67	1.40	0.34
2013-14	9.53	7.31	12.82	1.19	0.53	9.59	6.98	12.47	1.62	0.18	9.56	6.98	12.82	1.40	0.31
2014-15	9.66	7.71	12.89	1.18	0.55	9.63	7.00	12.38	1.61	0.14	9.64	7.00	12.89	1.39	0.26
2015-16	9.78	8.04	13.09	1.16	0.64	9.65	6.93	12.47	1.63	0.17	9.72	6.93	13.09	1.39	0.26
2016-17	9.92	8.22	13.21	1.10	0.74	9.69	6.99	12.63	1.65	0.20	9.81	6.99	13.21	1.38	0.25
2017-18	10.05	8.31	13.33	1.08	0.73	9.76	7.02	12.70	1.64	0.25	9.91	7.02	13.33	1.37	0.25
2018-19	10.13	8.48	13.56	1.08	0.88	9.83	7.13	12.75	1.65	0.28	9.99	7.13	13.56	1.38	0.30

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2019-20	10.19	8.48	13.78	1.09	0.99	9.89	7.15	12.77	1.64	0.27	10.05	7.15	13.78	1.38	0.32
CAGR	**1.80 percent**					**1.05 percent**					**1.44 percent**				

Source: Prowess IQ

FIRM SIZE

Table- 11 presents the summary statistics of firm size for private, public, and sample manufacturing companies from 2001 to 2020. The table shows that the firm's size continuously increases and shows an upward trend throughout the study period. Nevertheless, the private sample companies have registered larger firm sizes compared to public companies from 2014-15 onwards. As far as the minimum and maximum values are concerned, private companies have registered 4.62 in the initial period of the study and 13.78 during the year 2019-20, respectively.

A significant difference between these values indicated that few large companies are unduly affecting the average firm size of said companies. However, a low level of skewness in public companies indicated that the majority of these companies have firm sizes near their average firm size. On the contrary, the high value of skewness in private and sample companies reflected that some companies are large and are adversely affecting the average size of the firm. The above table also indicates that the annual compounded growth rate of firm size is 1.80 percent in private manufacturing companies. In contrast, it stood at 1.05 and 1.44 percent for public and sample manufacturing companies, respectively. Therefore, it highlighted that the CAGR of public companies is lagging behind other companies, and the CAGR of private companies is growing more rapidly than other companies, which is a good sign for the Indian private corporate sector.

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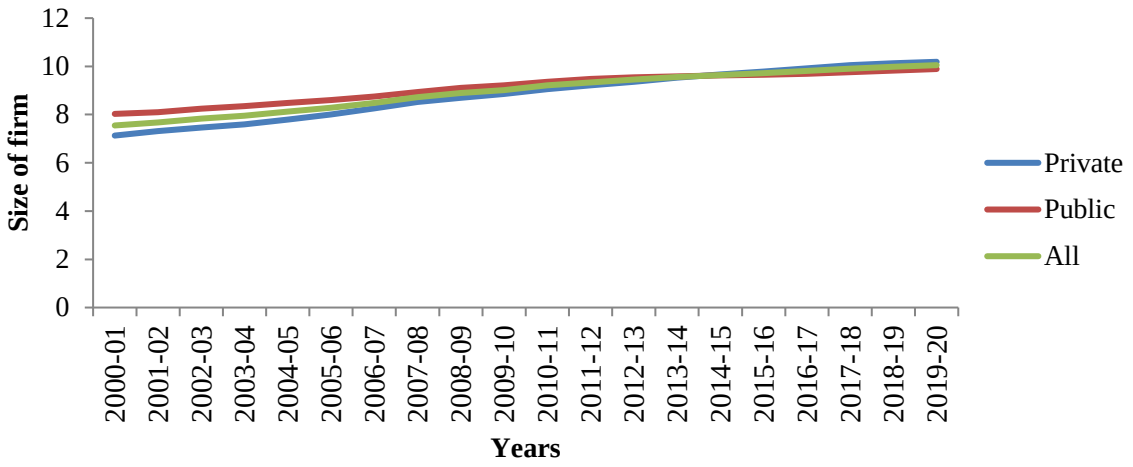

Figure 6

The graphical presentation of the average firm size for private, public, and sample manufacturing companies for the period 2000-01 to 2019-20 is depicted in figure 6. The graph highlighted that public companies had registered a higher average firm size value than other companies from 2000-01 to 2013-14. Nevertheless, afterward, the average values of said companies become relatively similar and coincide. However, the graph shows that the increasing average values rate is higher in private manufacturing concerns than in public and sample manufacturing concerns.

Efforts have been tried to test the hypothesis that there is an insignificant difference in the average firm size value for private, public, and sample Indian manufacturing companies; an independent sample t-test has been implied on the average data of firm size values for respective companies.

Table - 12 Independent Sample t-test matrix

	Private Companies	**Public Companies**	**Sample Companies**
Private Companies	**t-value** **p-value**	-1.074 (0.290)	-0.457 (0.650)
Public Companies			0.655 (0.517)

Sources: Computed from Annual Reports

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Table- 12 displayed the independent t-test matrix with the help of t-value and their respective p-value to compare the average firm size for private, public, and sample companies. The null hypothesis of equality of average firm size of private and public companies is true because the p-value, i.e., 0.290, is significant at five percent. Further, the table depicted that the average firm size of private and sample manufacturing companies do not differ significantly for the given study period because the p-value, i.e., 0.650, is at a five percent level of significance. In addition to it, the results of the table highlighted that the null hypothesis is accepted in the case of the mean average firm size for public and sample companies because the p-value of 0.517 confirmed that there is no significant difference between their average firm size values at the level of five percent.

CONCLUSION

The present paper has examined the trend and pattern of dividend decision variables of private, public, and sample manufacturing companies over the study period 2000-01 to 2019-20. The results indicated that private companies had registered a noteworthy compound annual growth rate as compared to other manufacturing companies, dictated that more profitable, highly liquid, and big-size firms have higher dividend payout ratios, as reported by Amidu and Abor (2006), Yusof and Ismail (2016) and Labhane and Mahakud (2016) in their studies. Further, firms that have maintained more cash flows in their business operations also distribute a large part of their earnings as dividends among shareholders. In addition, sample public manufacturing companies have registered a significant CAGR in their capital expenditure, negatively impacting their dividend payments and resulting in lower payouts, as highlighted by Bodla, Pal, and Sura (2007) and Troung and Heaney (2007) in their research work. The results indicated an insignificant difference between dividend decision variables for private, public, and sample manufacturing companies. The study findings are consistent with the life cycle theory and signaling theory of dividend policy. This paper implies that the dividend payout policy decision of Indian manufacturing firms is primarily influenced by variables such as firm size, profitability, liquidity, lagged dividend, and cash-flow position. A finance manager can consider these significant determinants of the dividend payout ratio while designing the appropriate dividend policy for a firm.

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