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Value creation by Indian companies: A comparative study over two time periods

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Abstract. The objective of this paper is to derive economic profit generated by Indian companies over two time periods and see whether there has been any fundamental change in the performance of companies and the sectors within which they belong. We focus on non-finance companies. The purpose is two-fold. First, to get an idea about how Indian companies have fared over the two time periods and whether there has been any structural change. Second, to help companies decide on their next strategic move and allocate funds for the purpose. The study also focusses on the relationship between size and economic profit, where invested capital and market capitalization represents size. The methodology presented in the paper enables us to understand the performance of Indian companies and also the sectors within which they belong.

Keywords. Economic profit, Invested capital, Quintile distribution, Market capitalization, Sector.

JEL. G11, G14, G32, L25, E22.

1. Introduction

ompanies evolve over time. Some grow and become industry leaders, some remain niche players, some go transnational, while some find it difficult to compete and stagnate. While there are industry level factors that shape the fortune of a company, it is also internal factors that significantly matter. There are books written on how companies become successful, and to name a few we have In Search of Excellence by Peters & Waterman (1982), Built to Last by Collins & Porras (1994), Blue Ocean Strategy by Kim & Mauborgne (2005), The End of Competitive Advantage by McGrath (2013) and 3 Box Strategy by Govindrajan (2016). These books draw their views from observing companies over time and look at their historic background and growth process. A recent book titled Strategy Beyond the Hockey Stick by Bradley, Hirt & Smit (2018) provide a yet interesting approach to understanding performance of companies. By evaluating companies on the basis of economic profit, they identify that

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whatever be the strategic decisions taken by a company for maintaining competitive advantage, it is the dynamics of different sectors that play a crucial role in shaping the future of a company. They advance the hypothesis that in the overall scheme of things, companies tend to be myopic in their approach and put too much emphasis on self-belief while designing business plans and strategic plans. The book demonstrates that many of the plans may not be successful, not because they are ill-conceived, but because the sector is overall not positioned well.

2. Objective

The overall economic performance of an economy and its growth prospects depend on the performance of various sectors and companies belonging to the sectors, the domestic market conditions, the global economic environment and appropriateness of domestic policy measures. Every political regime undertakes numerous policy measures and they try to highlight the success of these policy measures. Many of these measures are forward looking, while some are in response to specific events. Many a times policies do not yield the desired results as they were not well conceived, or were not properly executed, or the external environment was not conducive. Whatever be the reasons, economic performance of an economy affects employment prospects and growth in physical and financial assets. The objective of this paper is to look at economic profit generated by Indian companies over two time periods and see whether there has been any fundamental change in the performance of companies and sectors within which they belong. We focus on non-finance companies. The purpose is two-fold. First, to get an idea about how Indian companies have fared over the time period and whether there has been any structural change. Second, to help companies decide on their next strategic move and allocate funds for the purpose.

The plan of the paper is as follows. A brief literature survey is presented in Section 3. The methodology followed in the study is laid out in Section 4. Section 5 presents the data and the results. Section 6 concludes the paper.

3. Literature review

Porter (1985) noted that "...Not all industries offer equal opportunities for sustained profitability, and the inherent profitability of its industry is one essential ingredient in determining the profitability of a firm. ...All industries are not alike from the standpoint of inherent profitability. In industries where the five forces are favorable such a pharmaceuticals, soft drinks, and data base publishing, many competitors earn attractive returns; but in industries where pressure from one or more of the forces is intense, such as rubber, steel, and video games, few firms command attractive returns despite the best efforts of management." There is explicit recognition in the above statements that in order to merely survive, in some industries, firms may have to apply themselves to the fullest extent and

take cognizance of the five forces in their strategic thinking. In some industries, profit generation may be relatively easier, given the opportunities that the industry provides.

One way of understanding a company and an industry is through a process of extensive research. Peters & Waterman (1982) is based on structured interviews and also study of annual reports and press clippings of seventy five highly regarded companies. Their book was focused on finding common traits among successful companies and chose them from a wide variety of industries for proper representation.

In a similar vein, Collins & Porras (1994) analyze reasons behind success and failure of companies from similar industries. Thus, industry per se is not the focus of the book. Rather it is the company. However, industries move forward through the performance of its constituent firms, who in turn compete with each other in terms of value offering, price, distinctiveness, leadership quality and strategic orientation.

This can be observed in Govindrajan (2016) where he advances a simple framework involving Forget the Past, Manage the Present, and Create the Future. Although he focusses on individual companies, industry level factors like allowing new ideas and new trends, sensitivity to regulatory changes, effects of disruptive technologies and new distribution channels are also addressed. The success of a company depends on both external industry specific and industry-wide factors and internal factors. It is ability to adapt and manage that leads to success.

McGrath (2013) develops the concept of Transient Advantage. Her thesis is that companies which try to survive by exploiting competitive advantage may not survive for long as the industry scenario has become dynamic and competitive advantage is transient in nature. Companies need to be nimble, forward thinking, innovative and open to disengage. She advises companies to look out for signs of diminishing returns to innovation, increasing commoditization and diminishing returns to capital. One of the important elements of her suggestion to companies is to aggressively focus on developments in the external world.

This last thought has been given shape and comprehensively dealt with in Bradley *et al.*, (2018). According to their study, strategy by companies generally boils down to repeating whatever the company was doing in the past. This is a result of behavioral and social factors like halo bias, anchoring, confirmation bias, champion bias and loss aversion. Many a times companies start out with great plans that require big funding, only to see the funding thinly spread across existing activities as the management was unable to gamble with the unknown. The authors advance the concept of a hockey stick to describe a strategic plan, and point out that such strategies were all inward looking, rather than being anchored in external developments in the market place. They then construct a Power Curve to point out that not every industry is positioned to generate significant economic profit, and hence thinking in terms of a hockey stick that after initial losses, every strategy will fly, will not work. Analyzing the external

environment and studying other industries is essential for strategy formulation.

Kim & Mauborgne (2005) advance the hypothesis that competing with rivals is not the way to survive and grow. This according to them is like swimming in a red ocean. The strategy should be to make the competition irrelevant by identifying areas of operation where no one has gone before. For this they advance a Four Actions Framework and suggest that companies look across alternative industries. They have a separate chapter advising to look at the bigger picture and not the numbers.

Such a suggestion is present in Porter (1996). He draws a possibility frontier between non-price value delivered and relative cost position. The essence of the frontier is that if there is low non-price value of an offering, then to survive in the market a company has to be cost effective. Strategies aimed at cost reduction and operational efficiency is required in red oceans. If non-price value is delivered, then cost efficiency and pricing is not that important. Further, for a product or a service to be unique, the strategy should be so ring fenced that the processes cannot be imitated in totality.

4. Methodology

This study is based on the performance of 3060 Indian non-finance companies over two time periods 2011-2013 and 2014-2017. The data has been sourced from CMIE Prowess Data Base. We look at the overall performance of these companies, performance of the sector/industry where they belong, and also their performance in terms of size measured by market capitalization. We further focus on 45 large cap companies, 31 mid cap companies and 496 small companies. These are non-finance companies from the BSE large cap, mid cap and small cap indices. Our study also looks at performance of 20 sectors to which the above 3060 companies belong.

The metric that we consider for measuring performance is economic profit. Economic profit is arrived at after subtracting the opportunity cost of capital from operating profit. Operating profit divided by capital employed gives the return from capital employed. By subtracting the opportunity cost of capital from this, we arrive at the rate of economic profit. This, multiplied by capital employed, gives the level of economic profit. This value we compute for companies from different sectors and various levels of market capitalization to arrive at our results.

For proper comparison, we have taken data on companies which were in operation in both time periods.

As per Reserve Bank of India website [Retrieved from], Bank Groupwise Weighted Average Lending Rate during 2011 to 2013 was around 10.50%. This fell to around 9.20% in October 2018. According to State Bank of India information, their Benchmark Prime Lending Rate was around 11% to 14% during 2011-13, and was 13.40% during 2017. Given these rates, and given the fact that borrowing rates for companies depends on also their

credit rating, we have considered 12% to be the opportunity cost of capital for both periods.

5. Data and results

Figure 1 shows economic profit for 3060 non finance companies for the period 2011 – 2013. It is drawn by taking the average over 3 years and over 3060 companies for invested capital and operating profit. Table 1 indicates that the average returns on invested capital for the period was 13.98%. Given opportunity cost at 12%, rate of average economic profit was 1.98% during the period.

For the period 2014 – 2017, as shown in Table 2, the average returns on invested capital turns out to be 12.40%. Given opportunity cost of capital at 12%, rate of average economic profit was .40%. Figure 2 presents the data for the time period. The figures show, that although average rate of economic profit has declined, more companies during 2014-17 have broken away from the pack and shown improved performance.

Comparing the two time periods, we observe that there has been an overall decline in the average performance of the sample set of companies, although there are some outliers. It would be interesting to note a) which are the companies that have performed well; b) which are the companies that have performed poorly; c) whether there has been any change in the performance of specific companies; d) which are the industries to which these companies belong; and e) whether there has been a change in the relative position of the sectors.

Average Operating Profit (Rs. Crore)	150.86
Average Invested Capital (Rs. Crore)	1078.80
Opportunity Cost of Capital	12%
Average Return on Invested Capital	13.98%

Table 2. 3060 companies for 2014-2017

Average Operating Profit (Rs. Crore)	188.57
Average Invested Capital (Rs. Crore)	1520.95
Opportunity Cost of Capital	12%
Average Return on Invested Capital	12.40%

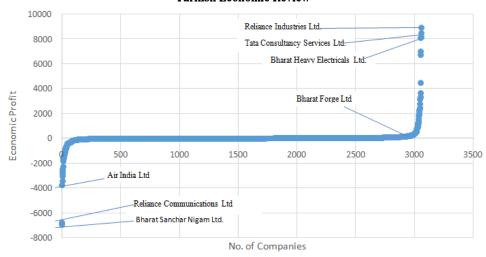


Figure 1. Average Economic Profit 2011-2013, 3060 companies (Figures in Rs. Crore) **Source:** Authors' own construction.

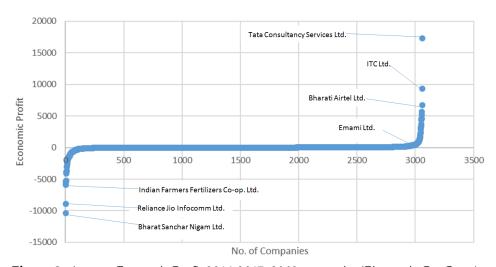


Figure 2. Average Economic Profit 2014-2017, 3060 companies (Figures in Rs. Crore) **Source:** Authors' own construction.

Figures 1 and 2 are of the "Power Curve" as referred to in the book by Bradley *et al.*, (2018). Some companies earned much higher economic profit than the rest. Some companies earned negative economic profit. Most of the companies have earned little economic profit. These are profitable companies, but have not generated significant economic profit. Tata Consultancy Services (TCS) has come out to be a high economic profit generator in both the periods, whereas Reliance Industries has lost its sheen in 2014-17. Bharti Airtel and ITC has shown significant improvement during the period and so has Bharat Forge. BSNL and Reliance Communications (later Reliance Jio Infocom) has done poorly, and we will observe later that they have adversely affected the overall performance of the sector.

For a better idea about the distribution of economic profit across companies, we divided the companies into quintiles in terms of economic profit. This is given in Tables 3 and 4.

Table 3. Economic Profit, Quintile wise, for 3060 companies for year 2011-2013

(Figures in Rs. Crore)	
Min	-6938.65
20th	-3.88
40th	0.70
60th	7.18
80th	26.00
Max	8926.89

Table 4. Economic Profit, Quintile wise, for 3060 companies for year 2014-2017

(Figures in Rs. Crore)	
Min	-10406.12
20th	-7.21
40th	0.34
60th	6.87
80th	28.74
Max	17326.44

Tables 3 and 4 suggest that in the lowest 20% quintile, the companies have done worse in terms of economic profit over the two time periods. However, from the 40th quintile upwards, the average economic profit has improved in 2014-17 over 2011-13. In the highest quintile, the average economic has improved significantly.

We now investigate whether size of a company affects economic profit. Figures 3 and 4 present the relationship for the highest and lowest quintile for the period 2014-17. Figure 3 shows that there is a positive relationship between capital employed and economic profit. That is, large companies have been able to generate higher economic profit than smaller companies in the highest quintile. However, companies like TCS and Vodafone have generated higher economic profit with lower invested capital than Tata Steel and Power Grid Corporation. The former companies are service providers and can generate higher returns with lower capital. Manufacturing will not have this edge and their returns will be lower.

Interestingly, for companies in the lowest quintile as shown in Figure 4, the effect is the reverse. With increase in invested capital, economic profit has a tendency to decrease. This has interesting implications for strategy formulation. Companies grow over time and this is through a process of capital accumulation.

However, companies in their effort to grow, at the end hurt themselves. It is possible, that there is an optimum scale. If this threshold cannot be crossed, economic profit generation may be difficult.

Further insight in the matter can be had from Figure 5. This shows the relationship between economic profit and invested capital for companies in the 40th to the 60th quintile in terms of economic profit. The diagram doesn't indicate any pattern. Many companies have been able to generate economic profit, irrespective of the size of capital invested.

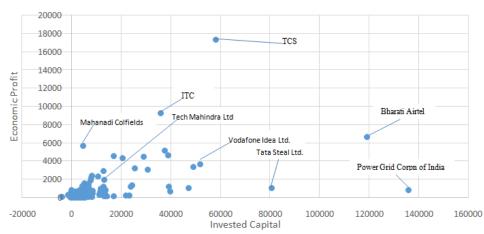


Figure 3. Relationship between invested capital and economic profit for the highest quintile for 2014-2017 (Figures in Rs. Crore).

Source: Authors' own construction

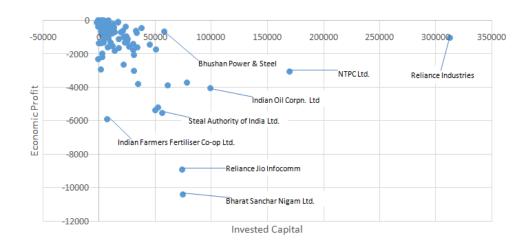


Figure 4. Relationship between invested capital and economic profit for the lowest quintile for 2014-2017 (Figures in Rs. Crore)

Source: Authors' own construction

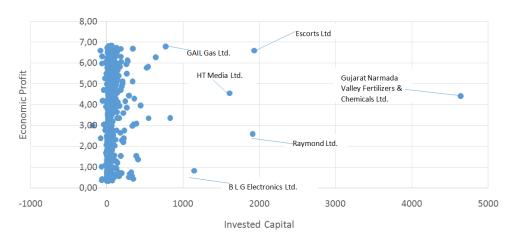


Figure 5. Relationship between invested capital and economic profit for the 40th to the 60th quintile for 2014-2017

Source: Authors' own construction

Similar observations can be made for the period 2011-13 and these are presented in Figures 6 to 8.

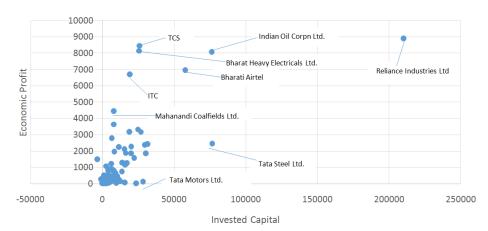


Figure 6. Relationship between invested capital and economic profit for the highest quintile for 2011-2013 (Figures in Rs. Crore)

Source: Authors' own construction

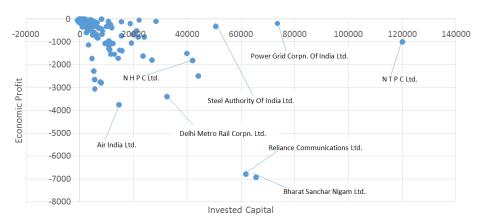


Figure 7. Relationship between invested capital and economic profit for the lowest quintile for 2011-2013 (Figures in Rs. Crore) **Source:** Authors' own construction



Figure 8. Relationship between invested capital and economic profit for the 40th to the 60th quintile for 2011-2013

Source: Authors' own construction

The previous tables were constructed to understand the effect of size on economic profit where size was measured in terms of invested capital. We now look at size in terms of market capitalization of companies, and instead of quintiles, we focus on three classes of companies, viz, BSE large cap, BSE mid cap and BSE small cap. As before, we have considered only non-finance companies. Figures 9 to 14 show the "Power Curve" of these classes of companies for the years 2011-13 and 2014-17.

The figures suggest that number of companies generating negative economic profit are more in the small cap segment, as compared to the mid cap and large companies. This is expected, as these companies would be facing a strong competitive environment and are not that innovative to create a niche for themselves.

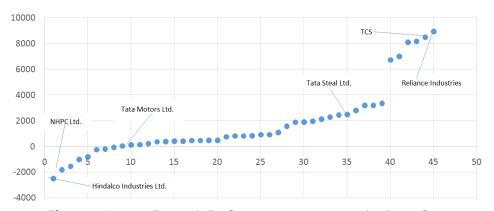


Figure 9. Average Economic Profit 2011-2013, 45 companies, Large Cap (Figures in Rs. Crore) **Source:** Authors' own construction

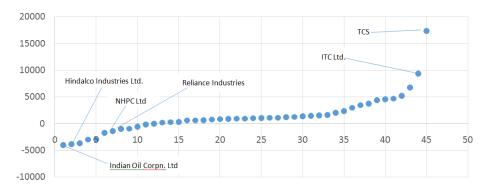


Figure 10. Average Economic Profit 2014-2017, 45 companies, Large Cap (Figures in Rs. Crore) **Source:** Authors' own construction

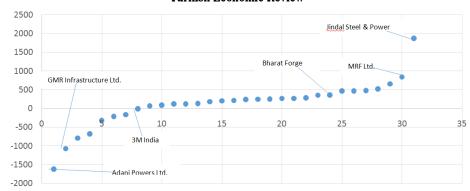


Figure 11. Average Economic Profit 2011-2013, 31 companies, Mid Cap (Figures in Rs. Crore)

Source: Authors' own construction

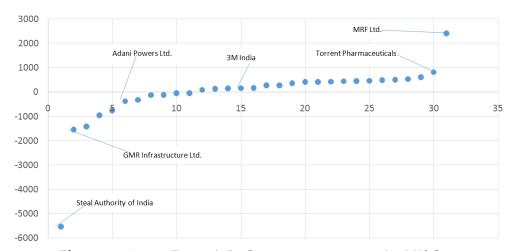


Figure 12. Average Economic Profit 2014-2017, 31 companies, Mid Cap (Figures in Rs. Crore)

Source: Authors' own construction

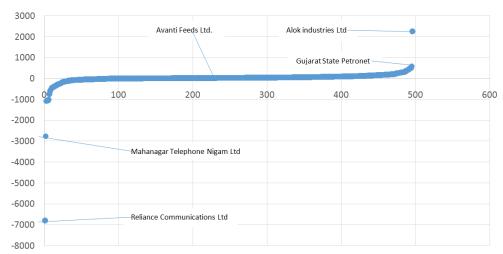


Figure 13. Average Economic Profit 2011-2013, 496 companies, Small Cap (Figures in Rs. Crore)

Source: Authors' own construction

Turkish Economic Review 2000 Alak industries Ltd 1000 Gujarat State Petrone 0 100 200 300 400 500 600 -1000 Mahanagar Telephone Nigam Ltd -2000 Jaiprakash Associates Ltd. -3000 -4000 Reliance Communications Ltd

Figure 14. Average Economic Profit 2014-2017, 496 companies, Small Cap (Figures in Rs. Crore)

-5000

-6000

Source: Authors' own construction

Table 5 and Figure 15 show that, for the companies considered under different market capitalization, there has been a deterioration in average economic profit, calculated over companies and time period, for the period 2014-17 over 2011-13, for large cap, mid cap and small cap companies.

Table 5. Change in average economic profit over two time periods, cap wise

(Figures in Rs. Crore)		
Cap	2011-13	2014-17
Small Cap	10.64	6.10
Mid Cap	120.82	-54.61
Large Cap	1741.24	1363.23

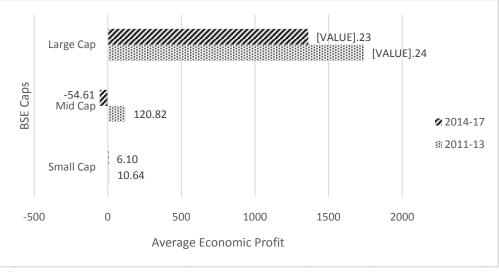


Figure 15. Average economic profit over two time periods, cap wise (Figures in Rs. Crore) **Source:** Authors' own construction

In the beginning, we had observed that the literature has indicated the importance of the industry for company performance. This was effectively

highlighted by Bradley *et al.*, (2018), who emphasized that investment strategy should be guided by relative position of the industry, rather than inward looking plans for growth. Figures 16 and 17 present the industry-wide distribution of average economic profit of the various sectors for the years 2011-13 and 2014-17 respectively.

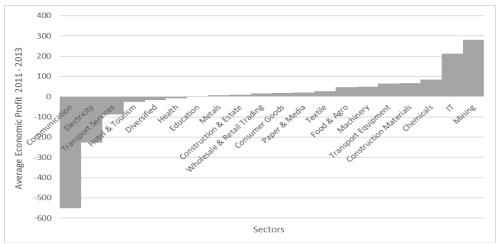


Figure 16. Sector-wise average economic profit for the period 2011-13 (Figures in Rs. Crore) **Source:** Authors' own construction

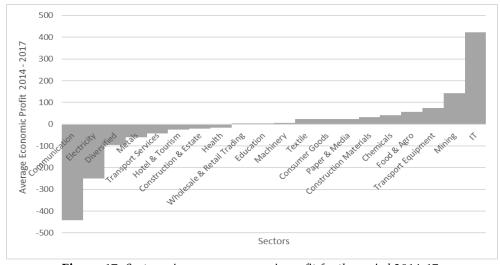


Figure 17. Sector-wise average economic profit for the period 2014-17 (Figures in Rs. Crore) **Source:** Authors' own construction

It may be observed that sectors like IT, Mining, Chemicals and Consumer Goods have generated economic profit consistent over the period. However, sectors like Communication, Electricity, Transport Services, Hotels and Tourism have not generated positive economic profit. The machinery sector has lost its shine in 2014-17 as compared to 2011-13.

It clearly emerges from the figures that certain sectors have generated negative profit, on an average, throughout the period 2011-17. Any amount

of inward looking strategy formulation may not work for companies in these categories. Further, it also reflects the economic environment and external factors that have shaped the fortune of these sectors. There has also been a change in relative position of the sectors.

Table 6 and Figure 18 show sector-wise average economic profit over two time periods. These indicate the relative performance of the sectors over the two time periods. Table 7 and Figure 19 provides information on sector-wise average rate of profit over two time periods.

Table 6. Sector-wise average economic profit over two time periods (Figures in Rs. Crore)

Sectors	2011-2013	2014-2017
Communication	-551.13	-442.50
Electricity	-226.40	-249.87
Transport Services	-88.11	-42.15
Hotel & Tourism	-25.76	-25.83
Diversified	-17.33	-94.45
Health	-7.19	-15.40
Education	0.64	3.13
Metals	7.08	-59.93
Construction & Estate	8.63	-21.60
Wholesale & Retail Trading	17.04	2.76
Consumer Goods	17.73	24.25
Paper & Media	19.41	24.64
Textile	27.02	23.40
Food & Agro	46.43	55.92
Machinery	49.29	6.43
Transport Equipment	64.79	75.26
Construction Materials	66.46	32.73
Chemicals	84.63	41.41
IT	212.70	423.60
Mining	281.24	142.50

Source: Authors' own construction.

600,00 400,00 Average Economic Profit 200,00 0,00 Hotel & Tourism Construction & Estate **Transport Equipment** Machinery Chemicals Health Transport Services Wholesale & Retail -200,00 -400,00 -600,00 Sectors **3 2011-2013 2 2014-2017 3 2 2014-2017 3 2 2014-2017 3 2 2014-2017 3 2 2014-2017 3 2 2014-2017**

Figure 18. Sector-wise average economic profit over two time periods (Figures in Rs. Crore)

Source: Authors' own construction

Table 7. *Sector-wise average rate of profit over two time periods*

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Sectors	2011-2013	2014-2017
Transport Service	5.49%	9.45%
Hotel & Tourism	5.90%	6.21%
Communication	6.95%	9.57%
Electricity	8.50%	9.28%
Health	9.57%	9.00%
Diversified	10.28%	4.53%
Metals	12.50%	8.93%
Construction & Estate	12.93%	10.16%
Education	13.05%	18.76%
Wholesale & Retail	14.91%	12.34%
Construction Material	17.73%	14.15%
Paper & Media	18.53%	18.87%
Chemical	19.22%	14.39%
Textile	20.24%	18.07%
Transport Equipment	20.59%	19.03%
Machinery	25.56%	13.60%
Food & Agro	26.25%	19.10%
Consumer Goods	27.20%	25.56%
IT	29.92%	31.12%
Mining	31.35%	17.64%

Source: Authors' own construction.

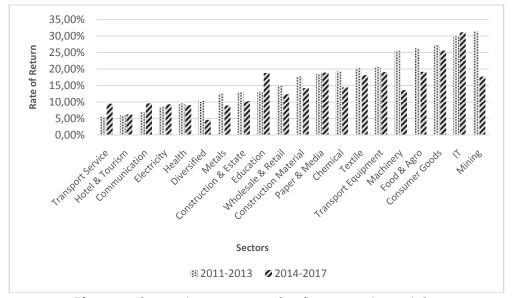


Figure 19. *Sector-wise average rate of profit over two time periods* **Source:** Authors' own construction

We then investigated the frequency distribution of average economic profit over the two time periods to ascertain in which profit range most companies lie, irrespective of the sector and market capitalization. We found that almost 85% to 87% of the companies were in the economic profit range of Rs. - 81.12 crore to Rs.93.88 crore for the years 2011-13 and 2014-17 respectively.

For better insight, we further considered the frequency distribution of economic profit for companies in the economic profit range of Rs. - 81.12 crore to Rs.93.88 crore. These are presented in Tables 8 and 9 for the years

2011-13 and 2014-17 respectively. The tables show that most companies within this group earned marginal loss to marginal profit of Rs. - 1.05 crore to Rs. 8.945 crore in both the years. In the overall scheme of things, in our sample, around 33 to 35 percent of companies earned positive economic profit during the time period.

Table 8. Frequency distribution of companies in the economic profit range of Rs. - 81.12 crore to Rs.93.88 crore in 2011-13

•	
Range in Rs. Crore	Frequency
-81.054 to -71.054	15
-71.054 to -61.054	20
-61.054 to -51.054	17
-51.054 to -41.054	34
-41.054 to -31.054	36
-31.054 to -21.054	59
-21.054 to -11.054	105
-11.054 to -1.05	370
-1.05 to 8.945	1121
8.94 to 18.946	351
18.946 to 28.946	194
28.946 to 38.946	113
38.946 to 48.946	73
48.946 to 58.946	45
58.946 to 68.946	43
68.946 to 78.946	32
78.946 to 88.946	26
88.946 to 98.946	13
Grand Total	2667

Source: Authors' own construction

Table 9. Frequency distribution of companies in the economic profit range of Rs. - 81.12 crore to Rs.93.88 crore in 2014-17

Range in Rs. Crore	Frequency
-81.054 to -71.054	17
-71.054 to -61.054	21
-61.054 to -51.054	14
-51.054 to -41.054	31
-41.054 to -31.054	47
-31.054 to -21.054	68
-21.054 to -11.054	127
-11.054 to -1.054	402
-1.054 to 8.946	993
8.946 to 18.946	331
18.946 to 28.946	183
28.946 to 38.946	97
38.946 to 48.946	70
48.946 to 58.946	61
58.946 to 68.946	47
68.946 to 78.946	29
78.946 to 88.946	42
88.946 to 98.946	13
Grand Total	2593

Source: Authors' own construction

6. Concluding remarks

The paper provides a framework to understand the performance of Indian over two time periods 2011-13 and 2014-17. Economic profit is the metric that has been considered for measuring performance. As defined in the paper, economic profit is the surplus left over of operating profit, after accounting for the opportunity cost of capital. Any company should at least earn its opportunity cost, or the hurdle rate.

The data collated for 3060 companies indicates that the average economic profit has gone down in 2014-17 from 2011-13. The average performance of large cap, mid cap and small cap companies have deteriorated. The "Power Curve" shows that significant number of companies barely made any economic profit in both time periods. Thus, all plans and strategies, have not yielded the required results. The industry level scenario indicates that companies have not generated economic profit, as many sectors have not generated average economic profit. Thus, industry level factors need to be seriously considered.

We also investigated the relationship between the level of economic profit and size as represented by invested capital. Here a quintile-wise exercise was performed. The data shows that scale necessarily does not play a role in generating economic profit. For the highest quintile, some positive relationship can be seen. However, for the lowest quintile, a higher invested capital has resulted in lower economic profit. Thus, many investments have not yielded desirable results.

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