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Financial Liberalisation and Efficiency of Investment Allocation

Parvathy S.* & Prabhakaran Nair V.R.**

Abstract: The argument suggested that the corporate sector will be able to select the most efficient sources of funding for industrial investment at the appropriate pace by putting more faith in market forces to determine the quantity available and cost of funds under financial reforms, ultimately driving economic growth. The question of whether financial reforms enhance the distribution of investments is an empirical one. This research addresses the issue of investment efficiency using company-level panel data from various industries and firms in the Indian private corporate sector. To capture the efficiency of investment, we examine how financial liberalisation has driven up the share of investment flowing to companies or firms with a higher marginal return on capital investment. We have applied the efficiency concept in this paper. We created an index to capture the allocative efficiency of investment. This index shows whether investment funds are going to companies with a higher marginal return on capital and to what extent. The study's findings show that financial liberalisation improved the efficiency with which Indian private corporate sector manufacturing companies allocated investment capital.

Keywords: Financial Liberalisation, Efficiency of Investment, Manufacturing, Indian Private Corporate Sector

According to Guncavdi et al. (1998), due to the relaxation of credit restrictions and the increasing influence of the cost of borrowing on investment decisions, financial liberalisation will probably affect the parameters of predicted investment functions. Financial liberalisation is anticipated to change the parameters of estimated investment. Like many developing nations, India also implemented trade and finance reform measures in 1991 to stabilise the macroeconomic system and promote economic growth through increased savings and investment.

* *Assistant Professor, Department of Economics, S.V.R. N.S.S. College, Vazhoor*
** *Professor, Department of Economics, Sanatana Dharma College, Alappuzha*

Administered interest rate ceilings have been accused of suppressing the savings rate, which lowers the amount of money available for investments and loans while also causing inefficient resource allocation. Consequently, it has been suggested that the financial sector be liberalised (McKinnon, 1973; World Bank, 1989). Because credit constraints are being loosened and borrowing costs are reduced, it was anticipated that India's new economic policies, particularly the financial sector liberalisation, would change the parameters of the estimated investment function. The main objective of India's financial sector liberalisation was to ensure that, by enabling access to outside capital and directing investment into developing lucrative enterprises and industries, the financial sector, which operates on pure market signals, has an advantageous impact on economic growth. The main goals of these reforms were to de-regulate banks and capital markets, de-regulate interest rates, remove interest subsidies and credit targeting, tighten accounting standards for banks, and integrate domestic and foreign financial markets by liberalising capital flows and trade through external sector reforms (Government of India 1991; 1993). Ceteris paribus, in this instance, a stronger dependence on market forces to decide on the cost and accessibility of capital will enable the business sector to select the best mix of funding sources for industrial investment at the appropriate rate, thus promoting economic expansion. Investigating how this structural shift affects the efficiency of investment of manufacturing firms is therefore intriguing. In this work, we investigate how changes in financial liberalisation in India affected the efficiency of investment allocation.

1. Contextualising the Study

Numerous studies have demonstrated a favourable correlation between various indicators of financial development and economic growth, raising questions about how the expansion of the financial sector affects overall economic growth. However, most research is based on aggregate data sets spanning national borders. These studies pointed out that financial liberalisation affects growth through the betterment of various indicators of financial depth. The studies like Beck et al. (2000) and Levine et al. (2000) based on cross-sectional and time series data, as well as the studies by Levine (2002), Levine and Zervous (1996), and King and Levine (1993) using cross-sectional growth regressions, should all be discussed within this framework. In an alternative effort, Rajan and Zingales (1998) noted that industries with a higher demand for external funding expand more quickly in nations with higher levels of financial development, based on industry-level data.

On the other hand, Maksimovic (1998) demonstrated that firms expand more quickly in nations with developed financial systems than at a stable growth rate without outside investment. The Galindo et al. (2002) study

provides additional evidence about the impact of financial liberalisation on growth. Bekaert et al. (2001) made a remarkable attempt to study how the deregulation of the stock market affected growth.

Though the above studies show improvements in several financial depth metrics, they do not conclude that financial reforms and savings or investment are positively correlated. More importantly, financial liberalisation significantly negatively impacted many countries in these studies. For example, Bandiera et al. (1999) discovered a negative relationship between financial liberalisation and savings for many developing nations in the analysis. This was to determine whether financial liberalisation increases or decreases savings. This suggests that while financial liberalisation might boost growth, savings and investment levels are likely to be negatively impacted similarly. Though financial development indicators positively and significantly impact total factor productivity growth (TFPG) indicators according to cross-country growth regressions, they have no appreciable impact on the quantity of investments made. Beck et al. (1999) offer a useful illustration in this context. This concludes that, while examining the impact of financial reforms on growth, the effect of financial deregulation on the effectiveness of capital investment allocation across firms and industries is likely the most crucial channel. King and Levine (1993) noted that technological advancement combined with financial liberalisation may still lead to growth.

In light of this, the following section discusses explicitly what the literature says about how financial liberalisation affects resource allocation efficiency. The empirical literature gives little empirical evidence on whether financial liberalisation improves investment allocation, especially in India. Siregar (1992) analysed Indonesian manufacturing firms' investment efficiency during pre and post-liberalisation periods. The study found that after deregulation, more credit was extended to firms with higher levels of efficiency. In a comparable study conducted for Ecuadorian enterprises in the 1980s, Jaramillo et al. (1992) similarly came to similar conclusions. The study showed that more efficient firms could attract increased credit after liberalisation. In this study, efficiency is strictly defined as purely technical efficiency. They employed panel data-based estimates of a 'Cobb-Douglas production function' to determine technical efficiency. Chari and Henry (2002) conducted a firm-level cross-country study for Korea, Thailand, Malaysia, Jordan, and Korea. They showed that capital account liberalisation increases investment and Tobin's q for the average firm. However, this study did find that reallocating investments does not significantly correlate with changes in investment opportunities. The related issue is addressed in studies about firm-level data. However, these studies aimed to determine whether financial constraints have eased since financial liberalisation.

Most of these studies argue that smaller companies' access to financial resources has increased after financial liberalisation.

Wurgler (2000) shows that growth of investment and value-added are strongly correlated in mature financial systems. The study uses industry-level data spanning 33 years and 65 countries. He observed that better capital distribution is evident from the increased credit-GDP and stock market-GDP ratios. In particular, he demonstrated how nations with more advanced financial systems invest more in their expanding sectors and less in their contracting sectors. Wurgler's research focuses on cross-national differences in time-invariant financial development measures rather than the modifications brought about by financial reforms. Cho (1986) applied a different methodology to show how marginal return to capital differs between Korea's pre- and post-reform periods among various industries. These studies contribute vital information about the effects of financial reforms or development in various nations. However, the question of how to allocate investment funds in developing countries needs to be defined and understood by these studies. In the current study, we aim to close this gap by evaluating the efficiency of investment allocation of Indian private corporate firms after financial liberalisation. Implementing numerous policy initiatives in the money and capital markets was a noteworthy aspect of India's economic reforms. These initiatives immediately resulted in a marked increase in any theme of activities in the financial sector. Many financial instruments, such as the money market and capital market reforms, were implemented to reduce or eliminate the central government's control over a firm's access to finance from various sources (Joseph et al., 1999). The goal of these policies was likely to enhance economic growth by giving companies that require technology access to more funds from debt instruments and equity funding and directing capital towards expanding and profitable firms and industries. Therefore, we anticipate that the financial sector's resource mobilisation and investment allocation in the private corporate sector will be efficient.

This paper attempted to analyse the effectiveness of investment allocation in India in the context of financial liberalisations because, as we previously mentioned, the primary concern in numerous studies regarding the amount of investment was whether the market-oriented financial sector had assisted in allocating resources to more efficient firms. In this instance, the central question is whether the implemented financial reforms have resulted in better resource distribution because, as argued in the theoretical literature, financial liberalisation has increased the economy's capacity for market forces to determine the quantity of credit and interest rates (quality). Whether this procedure will enhance the allocation of investments and savings is an empirical inquiry. According to Galindo et al. (2003), financial liberalisation generally

entails swapping out a severely defective system marked by significant government intervention for another system based on market forces with fewer drawbacks. The crucial question of whether capital investment goes to profitable and efficient firms as a result of the deregulation of interest rates and other financial liberalisation initiatives is covered in this study. To analyse investment efficiency, we use panel data collected at the firm level from various industries and types of firms. To quantify investment efficiency, we investigate whether financial liberalisation has contributed to a more significant proportion of capital investment flowing to companies with a higher marginal return on capital (profit). As a proxy for investment efficiency, we create a summary index to examine efficiency. This index shows whether investment funds are allocated to businesses or enterprises with a better marginal capital return. The study is divided into five sections. After an introduction, a brief review of previous research is carried out in Section 1. In section 2, we discuss the data and methodology. Section 3 measures the index and discusses the findings for various firm categories and industries. The paper is concluded in Section 4.

2. Efficiency index: Data and methodology

Manufacturing makes up slightly less than half of all the private corporate sector enterprises. Because of this, registered manufacturing accounts for the majority of the value-added in the corporate sector (Government of India, 2003). Consequently, the current study uses firm-level data from the manufacturing sector. The firms in the corporate sector are non-financial and non-government joint stock companies. They include both public limited and private limited companies. There were about 6.19 lakh registered firms as of June 2003, with the manufacturing sector accounting for less than fifty per cent. The Government of India (2003) states that non-government enterprises' estimated paid-up capital amounts to 12.1% of GDP. The firm-level data is gathered using the computerised database PROWESS maintained by the Centre for Monitoring the Indian Economy (CMIE). The PROWESS dataset contains financial information on over 8,000 companies or firms from stock exchange-listed companies with sales exceeding Rs. 10 million.

Moreover, suppose an organisation is not on the list. In that case, it can be added to the database if, according to the latest audited financial reports, the average total of its sales and assets is greater than or equal to Rs. 200 million. The database contains extensive information on these companies' financial parameters obtained from stock price data based on profit-loss accounts and balance sheets. The study covers the private corporate manufacturing sector from 1989/90 to 2017/18 and uses firm-level data. The data is available from 1989/90 onwards electronically. The panel is unbalanced. After deleting firms with abnormal values for variables and

outliers, we left with 569 manufacturing firms having 7852 observations. These firms were further classified into different categories according to different characteristics and industry groups.

Even though changes started at the beginning of the 1990s, their impacts were only noticed gradually. Nevertheless, for our study, the reforms since 1991 were highly significant for eliminating the credit controls placed on the banking system. The more influential public sector (state) banks were asked to carry out their business in an autonomous manner with market forces to determine their lending decisions than had been the case before financial reforms. We will refer to the period from 1995/96 to 2017/18 as the post-liberalisation period for the analysis, based on the supposition that changes implemented in mid-1991 had only had enough time to affect the investment decisions of enterprises well up to 1995. Since this time frame was chosen to align with the liberal financial regime, it is reasonable to anticipate increased resources to firms from liberalised financial markets. The post-liberalisation period 1995/96 to 2017/18 is thuc compared with the pre-liberalised period from 1989/90 to 1994/95.

We measure the investment efficiency index by following the methodology developed by Galindo et al. (2003). Determining an investment's efficiency begins with measuring its marginal return on investment. The efficiency of marginal return on capital investment can be computed using surrogates for an average capital product measure; for our analysis, we have used two proxy measures: the ratio between value-added and capital stock (va_t/K_t) and the ratio between operating profit and capital stock (π_t/K_t). Following the measurement of the efficiency of investment using two measures, i.e., va_t/K_t and π_t/K_t respectively, we conducted the following analysis to determine how efficient the investment allocation among various firms and industry groups. The measures $va_t/K_{t \text{ and }} \pi_t/K_t$ represent calculations of the average product of capital. Let us examine the steps in calculating these proxy measures. First, we multiply each firm's investment by each of our measures, giving us each firm's return on investment. Second, the returns on each firm's investments across all firms are summed up to derive a return on investment at the aggregate level. Thirdly, the aggregate return on investment thus obtained is divided by the total return that would have been realised if the firms receiving the investment had been allocated based on their capital share in the industry. The ratio thus obtained represents the efficiency in which the firm allocates its investment. This index does not alter when changes in macroeconomic conditions raise each firm's marginal productivity of capital investment. By applying this method to the computation of the efficiency index for investment allocation, we obtain two measures of investment efficiency. The first method determines the marginal productivity of capital using operating profits per capital unit; the second method determines the marginal productivity of investment using value added per capital unit.

We can use the company's capital stock (K) at the beginning of time (year) 't' as a proportion of the total capital for all companies or firms at that same time to calculate the percentage of investment funds that a firm would get if funds were given out in the same manner as previously in the past. Then for time as year 't', the two iterations of index as measure of efficiency are obtained. They are:

$$\sum I^{va}t = \frac{\sum \frac{vai,t+1}{ki,t+1} Ii,t}{\sum \frac{vai,t+1}{Ki,t+1} \cdot \frac{ki,t}{kt^T} . I_t^T}$$

$$\sum I^{p}t = \frac{\sum \frac{Pi,t+1}{ki,t+1} Ii,t}{\sum \frac{Pi,t+1}{Ki,t+1} \cdot \frac{ki,t}{kt^T} . I_t^T}$$

Where *Pi,t* stands for the firm's profit at time *'t'*, *vai,t* for value added, *Ii,t* for the investment rate, and *Ki,t* for the capital stock at time 't'. The aggregate of investment and capital stock for all firms' time *'t'* is represented by It^T and Kt^T. Each investment made in time period 't' raises the capital stock (K), yielding a profit in the time period t+1. Capital stock (K) is measured using 2011-2012 prices as the base year. Our firm-level data includes the gross fixed asset (GFA) in historical cost. This needs to be adjusted, which necessitates firm-level capital stock estimation. With the help of this data, we built capital stock using Srivastava's perpetual inventory method (1996).

Generally, the value-added-based index is considered a better proxy than the profit-based index. There are numerous explanations for the declining popularity of profit-based indices. First, value added is measured more precisely on balance sheets than operating profits are. The operating profits are more difficult to calculate in inflationary environments since it necessitates valuing changes in raw material inventories and, consequently, the cost of final goods sold in the market. The profit-based efficiency measure has an additional issue. Workers may be paid more for their occupations than the reservation pay due to unionisation or occasionally due to the need to pay efficiency wages (wages paid based on skill rather than time). The profit-based index can understate the rise in total surplus produced if labour is reallocated in a way that also causes capital to be reallocated. Lastly, the link between operating profits

and cash flow complicates the use of operational profits as a measure of return on capital. Cash flow and investment may have a higher association after financial deregulation than they did before. Therefore, it stands to reason that the operational profit indicator, which gauges how effectively investments are allocated, would be biased towards the pre-liberalisation era. Prior research generally demonstrated that while financial restrictions are loosened for small businesses, there is little to no change for medium- and large-sized businesses. Nevertheless, despite all this, we discovered that our profit-based efficiency measure increased following financial reform, suggesting improved resource allocation. In the section that follows, we go over the findings.

3. Results and discussion

3.1 Efficiency of Investment Allocation among Grouped Firms

We attempted to investigate efficiency in the following industries: paper, rubber and plastics, textiles, wood, metal, chemicals, food, leather, machinery and equipment, and non-metallic minerals. This section presents summary measures of efficiency indices to investigate whether investment resources have been used more efficiently during the post-liberalisation period. Table 1 gives the measure based on profit and value-added across various firm and industry categories.

Table 1: Investment efficiency for the entire sample and various firm categories

Category		Index (based on profit) EIπt		% Change	Index (based on value-added) EIπt		% Change
Pre-Lib. (1989/90-94/95)		Post-Lib. (1995/96-2017/18)		Pre-Lib. (1989/90-94/95)	Post-Lib. (1995/96-2017/18)		
Total Sample		1.06	1.18	8.88	1.03	1.11	7.12
Size	Small	1.08	1.57	31.21	1.02	1.39	26.62
	Medium	1.22	1.59	23.27	1.07	1.38	22.46
	Large	1.06	1.47	27.89	1.05	1.39	24.46
Status	Group	1.07	1.39	23.62	1.05	1.33	21.05
	Non-Group	1.05	1.09	4.58	1.02	1.09	5.55
Market	Export-oriented	0.98	1.31	25.19	0.96	1.76	25.19
	Domestic Market	1.06	1.16	-8.16	1.10	1.20	-12.27

Source: Authors' Calculation using CMIE PROWESS Database

According to the analysis, both the EI^{π}_{t} and EI^{π}_{t} measures show a discernible increase in overall efficiency after financial liberalisation. Based on π_t/K_t as a proxy for the rates of return, the efficiency index of investment allocation has increased by 8.88 per cent. However, if we take the value added to capital ratio (va_t/K_t) as a stand-in for rates of return, it is slightly lower, i.e., 7.12%, to be exact (Table 1). Overall, efficiency has improved following financial liberalisation for our sample of 7852 firms in terms of both indices. The overall results, however, need to indicate how financial liberalisation would affect the allocative efficiency of investment for various firm categories. Stated differently, examining whether investment flows to better and more efficient categories of enterprises in the wake of financial liberalisation will be essential.

We separated the whole sample into distinct firm categories to further analyse investment efficiency in firm categories. We segmented our sample into multiple groups based on firm attributes like size, group, and market. In addition to this, we also classified the total sample into 11 different manufacturing sectors or industries. For all these categories, we calculate the efficiency of investment indices as given in Table 1. It is seen from Table 1 that there is an increased inflow of investment toward more efficient firms in various categories we have followed. Among various size groups, it is noted that in all the size groups, i.e., small, medium, and large firms, the efficiency of investment increased during the post-liberalisation period. The profit-based index has risen by 31.21 per cent, 23.27 per cent and 27.89 per cent for small, medium and large firms, respectively. The value-added index has increased by 26.62 per cent, 22.46 per cent and 21.05 per cent for small, medium and large firms, respectively (Table 1). Though the value-added-based efficiency indices for various size categories are numerically less, all three size categories show significant improvement after liberalisation. Using both indices, medium-sized firms show the highest improvement in allocative efficiency of investment, followed by large firms. The results suggest that investment was attracted to more efficient firms in all three size categories of firms, with more prominent shifts in medium and large firms.

Table 1 also shows that, concerning the division of firms into groups and non-group categories, the group firms have considerably improved their investment efficiency relative to the non-group firms. While group firms increased their efficiency index by 23.62 per cent and 21.05 per cent according to both methods, for non-group firms, the increase in investment efficiency was minimal, i.e., only by 4.58 per cent and 5.55 per cent, respectively (Table 1). This shows that group firms, since endowed with the benefits of being in a group, can attract investment towards more efficient firms. When firms are categorised by "market", whether domestic or international market-oriented, the export-oriented firms exhibit better investment allocation efficiency. On the other hand,

domestic market-oriented firms showed a slight deterioration. While the efficiency has increased by 25.19 per cent according to both methods for exporting firms, the efficiency of investment came down by 8.16 per cent and 12.27 per cent according to both methods for non-exporting firms (Table 1).

Table 2 presents companies' efficiency estimates in several industry categories: automobiles, chemicals, machinery and equipment, food, textiles, non-metallic minerals, wood, leather, metal and metal products, paper, rubber and plastics. It is observed that following financial deregulation, every industry has improved its investment efficiency, except the food and metal and metal product industries. During the post-liberalisation era, investment allocation efficiency rose in these industries (Table 2). This suggests that better firms make a more significant percentage of investment in these industries.

Table 2: Indices of the efficiency of the distribution of investments among different industry groups

Category	Index based on profit		Index based on value-added	
	Pre-Lib. (1989/90-94/95)	Post-Lib. (1995/96-2017/18)	Pre-Lib. (1989/90-94/95)	Post-Lib. (1995/96-2017/18)
Automobile	1.03	1.10	0.98	1.03
Chemicals	1.04	1.25	1.02	1.21
Food	1.08	1.07	1.06	1.02
Leather	1.04	1.17	0.96	1.07
Machinery and equipment	1.00	1.07	0.99	1.03
Metal and Metal products	1.07	1.06	0.98	0.96
Non-Metallic Minerals	1.02	1.38	1.01	1.32
Paper and Paper Products	1.01	1.10	1.05	1.06
Rubber and Plastics	1.02	1.21	1.02	1.16
Textile and Textile products	1.21	1.25	1.33	1.36
Wood and Wood Products	1.33	1.36	1.21	1.25

Source: Authors' Calculation using CMIE PROWESS Database

The exercise in Table 3 further analyses how far the investment is attracted to better firms. In this attempt, we carry out an exercise where we treat all firms within each sub-category as the representative figure of its category. This means that we analyse the sample data in such a way that in the "size category", there is only one small, one medium, and one large firm;

in the "group category," there is only one group and one non-group firm; and, in the "market category," there is only one export-oriented and one non-export-oriented (domestic) firm. Similarly, each industrial group's total number of firms is summed up to form an industry representative figure. The efficiency indices are then determined using the formula discussed in the methodology section. Assuming a single company exists in each industry category, table 3 provides the indices for the efficiency of investment allocation. Table 3 shows that more profitable and efficient firms of various sizes, markets, groups, and sectors could attract more investment in the liberalisation era. It is seen that the aggregate investment efficiency for each category shows that improvements in the post-liberalisation period are significant for the aggregation of industries, groups, sizes and market categories, with a smaller increase across the size categories. We need clarification on the minuscule rise in all size categories. It is pertinent to ask how we can explain these findings. To do this, we tried analysing the profit capital stock ratio (π_t/K_t) and the ratio of investment to total investment (I_{it}/I_t) for various firm categories in the following section.

Table 3: Investment Efficiency in each Category Firm

Firm's Characteristics	Index based on Profit		Index based on value-added	
	Pre-Lib. (1989/90-94/95)	Post-Lib. (1995/96-2017/18)	Pre-Lib. (1989/90-94/95)	Post-Lib. (1995/96-2017/18)
Size	0.99	1.06	1.02	1.10
Group	1.06	1.21	0.99	1.15
Market	1.03	1.32	1.01	1.12
Sector/Industry	1.03	1.36	0.91	1.45

Source: Authors' Calculation using CMIE PROWESS Database

3.2 Investment Share and Profitability of Firms

The profitability and investment share across different firm and industry categories are calculated in this section. Table 4 gives investment share and profitability measures for all firms and various firm categories. These measures include profitability, or the ratio of operating profits to capital stock (π_t/K_t) for various business categories and the share of investment in total investment (Ii_t/I_t). Table 4 demonstrates that small firms have experienced a twofold increase in profitability and investment share following liberalisation, while medium-sized firms have seen a much smaller increase. Furthermore, despite a sharp rise in their profitability rates, the large firms have reduced their investment share. Table 4 shows that the high-profit rate dominates the figure due to the large firms holding

the highest percentage of capital stock. As such, the investment efficiency indices across sizes witness a very small boost.

Regarding market orientation, it was found that investment was directed towards export-oriented firms. This is corroborated by the fact that export-oriented businesses invest more despite seeing a significant increase in their profit rate. In contrast, non-export businesses cut down on their investment despite a minor gain in their profit rate. We obtain a similar picture if we divide firms between groups and non-group status (Table 4).

Table. 4: Investment Share (Iit/It) and Profitability (πt/Kt) for Different Firm Category

Category	Iit/It		πt/Kt	
	Pre-Lib. (1989/90-94/95)	Post-Lib. (1995/96-2017/18)	Pre-Lib. (1989/90-1994/95)	Post-Lib. (1995/95-2017/18)
Small	0.21	0.25	0.233	0.240
Medium	0.34	0.37	0.237	0.272
Large	0.45	0.42	0.252	0.290
Group	0.33	0.42	0.234	0.321
Non-group	0.67	0.58	0.212	0.231
Export Firms	0.43	0.54	0.321	0.421
Non-Export Firms	0.57	0.46	0.232	0.302

Source: Authors' Calculation using CMIE PROWESS Database

The same exercise's results for different industries support the same conclusion. For several industry groups, we have calculated investment share and profitability. Industries like metal and metal products, automobiles, leather, machinery and equipment, rubber and plastics, and non-metallic minerals show an increase in both profit rate and share of investment after reforms. On the other hand, food, rubber and plastics, textiles and wood, etc., experience a decline in both profit rates and share of investment. The only exception is the chemical industry, whose share of investment declined, though its profitability has increased significantly. The reason for no increase in investment despite higher profit may be due to the excess capacity experienced in this industry. Our analysis shed light on the fact that investment is allocated toward better industries. These results confirm our earlier analysis of efficiency indices that the allocation of investments has improved toward the better category of firms. Moreover, investment was attracted by better firms in better categories, which showed enhanced efficiency.

4. Conclusion

One limitation of our analysis is that tests of causality or significance are not possible using this methodology. However, the results shed light on the fact that investment efficiency has increased after introducing reforms in the financial sector. It is a fact that the introduction of the market-oriented financial sector with more products and processes has increased the accessibility of firms and industries towards external funds. More importantly, our analysis shows that expanding and profitable firms and industries benefitted the most from the financial liberalisation. The empirical results of our study support the view that financial liberalisation increased the effectiveness of investment fund allocation. A comparative analysis of the efficiency measures between the pre-reform and post-reform periods reveals improvements in investment allocation efficiency for most firms and industry categories. Our findings lend credence to the notion that investment efficiency in the manufacturing sector of the private Indian corporate sector has improved significantly. Our findings demand a more in-depth investigation to shed more light on the issue of investment efficiency and how it affects economic growth. This study offers some guidance in this regard. To draw further conclusions, it is pertinent to analyse empirically how financial liberalisation contributes to investment efficiency for various firm categories.

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