A Study of Investment Catalysts: Unraveling Determinants of Fixed Assets in the Construction Industry

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Abstract

With the engagement of advanced technology in the civil engineering industry, automation and prefabrication of fixed assets is in huge demand Fixed assets stand as integral components for the operational efficacy of firms, which in return helps in the growth of that whole industry. The primary objective of this study is to find the determinants of investment in Fixed Assets in the Construction Industry. The study has considered five construction companies selected on the basis of their age, profitability and paid-up capital. The stepwise multiple regression models; addition model, constant model, and elimination model, have been employed to analyze and check the robustness of the results. The study results align with empirical findings, highlighting the significance of profit in business investment choices. The Stock of Net Liquidity plays a more important role in the investment, followed by Gross Internal Funds and Change in Sales. Retained earnings impact investments, while dividends influence external funding inflow, and earnings affect dividends. Profits have direct and indirect effects on investments through retained earnings and external finance. It's essential to balance dividend pay-outs to safeguard substantial profits, given the substantial role retained earnings play in investment decisions. The novelty of this study will provide valuable insights to understand how to control various factors in order to increase fixed assets through investments and in return, grow the firm.

Keywords
Construction Industry, Fixed Assets, Investment Behaviour, and Multiple Regression Analysis.

1. Introduction
In the past, there has been considerable interest in many sectors over the level of growth of larger firms in terms of increased fixed assets, sales, and profits. This research is limited to the expansion of net fixed assets. Given the preceding discussion, it is critical to understand the variables responsible for the expansion of fixed assets and plant and machinery separately. India is witnessing rapid financial development now, with numerous investments being made in the nation's infrastructure to further its general development. The main factors influencing the development of the Indian construction industry include rising productivity and efficiency, giving the sector structure and pattern, offering transparency and a better image of the business, modernization, and increased competition.(Auti and Skitmore 2008)
More than 50 million individuals work solely in the construction industry. Includes building, real estate and non-residential structures in the commercial and industrial sectors as well as infrastructural assets (Singla and Prakash 2021). The building industry's contribution to the expansion of manufacturing is a distinctive trait. Over the last five years, the industry has expanded by an average of 5.2%. However, India's industry is highly fragmented, with both listed and unlisted companies present (Behera et al. 2015).

In 2012, the sector earned $10,842 billion in total revenues, with Asia-Pacific accounting for 71% and America accounting for 15%. The Compound Annual Growth Rate (CAGR) for the construction and engineering sector from 2008 to 2012 was 2.20 percent, and it was projected to increase to 6.40 percent from 2012 to 2017. The CAGR for the home building sector from 2008 to 2012 was 2.90 percent, and it was projected to increase to 17.30 percent from 2012 to 2017(Goel 2017).

Operating budget revenue sources and capital budget revenue sources make up the two main sources of income. The annual operating budget is financed through operational budget revenue streams such as property taxes, sales taxes, and fees. Long-term debt, equity finance, and capital reserve are all sources of revenue for the capital budget(Beckett-Camarata 2020). There is a consensus among studies that have examined and analysed the performance of construction enterprises that declining financial performance is a direct cause of their financial failure (Abdul-Rahman and Wang n.d.) (Suberi et al. 2014) (Mohamad et al. 2014) (Horta and Camanho 2014) (Horta and Camanho 2013). These studies have helped assess the performance of construction firms using criteria like cash flow, profitability, debt load, working capital, and asset management efficiency (Oladimeji and Aina 2018)

The asset portfolio of any contracting firm decides how far it can go, what it can handle, and what proportion of the market it can gain in the complicated and fiercely competitive construction sector, which has an ever-changing operating environment (Kehinde and Mosaku 2006). The true earning assets of a corporate entity are fixed assets. These assets give the company the ability to produce goods and services, which in turn produce sales, revenues, and profit (Singh et al. 2012). Assets are resources that an entrepreneur owns and uses to accomplish business and operational goals. Both current and fixed assets fall under the category of financial assets. The function an asset fulfils in any business—whether it be for use in the creation and provision of goods and services, for rental to third parties, or ongoing administrative needs in the reporting entity's operations—determines whether it should be classified as fixed or current. The assets are considered current assets if they do not meet these requirements (Kehinde and Mosaku 2006).

1.1 Objectives

Considerable interest has been shown in various quarters in the past regarding the extent of growth of larger companies in terms of the increase in fixed assets, sales and profits. This study is only confined to the growth in net fixed assets. Because of the above discussion, it becomes important to know the factors responsible for the growth of fixed assets and plant & machinery separately. In this context, the present study has the following specific objectives.

  i.   To explore the investment pattern in Gross Fixed Assets of selected Construction companies in India.
  ii.   To compare and select the best model which can significantly determine the investment behaviour in fixed assets through Stepwise Multiple Regression Analysis.
  iii. To examine the investment pattern of selected Construction companies specifically in Plant & Machinery.
  iv.   To analyse the determinants of investment in Gross Fixed assets i.e., Gross Block and Plant & Machinery.

2. Literature Review

In a market economy, the operation of businesses is linked to the constant improvement of competitiveness as well as production efficiency. Meeting the needs, which is a consequence of the ongoing changes, necessitates adopting activities that assure the long-term development of companies. These initiatives are based on fixed-asset investments. Infrastructure investments are frequently viewed as a solution to the challenges of unemployment and rural depopulation, as well as a means of boosting the economy. On the other hand, lacking investment operations may result in divestment processes that entail reducing manufacturing assets or limiting the number (or range) of operations. (Szymańska et al. 2021).

The choice of whether to grow, maintain, or shrink a business ranks among the most crucial choices made by business owners. These significant commitments should be founded on expectations for future performance, which in turn should be substantially affected by past performance. Although decisions to grow or shrink a company are not always good or negative, business owners must understand the elements that influence these choices (Mccarthy et al. n.d.). When determining the relationship between investment and other related economic variables like sales, profits, and interest rates, it is important to keep in mind that there are both objective (technological and institutional factors) and subjective (businessmen's psychology) factors at play(Sarkar n.d.).

Investment is made through inside-produced funds like profits, retained earnings and support from investors, or remotely created funds through confidential situations, public contributions of offers on the stock exchange (Initial public offerings). Different sources of investment incorporate short-term financial area credit (overdrafts, exchange finance, debentures, contracts, advances), long haul capital raising from the secondary business sectors through corporate debt (preference shares, corporate and infrastructure securities) lastly unfamiliar direct investment (Olweny and Chiluwe 2012). The numerous empirical data gained demonstrate that the factors of fixed

asset investment differ significantly from those of intangible asset investment. Furthermore, both fixed asset investment and intangible asset investment are found to be persistent, with fixed asset investment being more persistent (Nunes et al. 2017). Firms confront difficulty in obtaining external money to fund investment possibilities in imperfect financial markets, as well as the fact that external funds are more expensive than internal funds. As a result, business finance and investment decisions may not be free (Serrasqueiro 2017). Firm size is favourably connected to fixed asset revaluation. Firms with international operations, minimal fixed assets, and significant debt capital requirements are more likely to revalue fixed assets (Iatridis and Kilirgiotis 2012)

Fund management serves as the lifeblood of every corporate organisation, regardless of size, during its full life cycle, from beginning to closure at any time. In nations that are developing such as India, financial requirements will be greater than actual availability. As a result, the Financial Managers have been given the additional task of fundraising and management. There are two sorts of funding sources: i) internal sources and ii) external ones. Internal Sources are created within the organisation. These consist mostly of earnings kept, all reserves, surpluses, and provisions. External funds are raised through the issuance of equity, preference shares, and debentures, as well as borrowings from the government and other financial institutions and the mobilisation of public deposits (Yadagiri and Srinivas 2015)

The fixed investment choice is a crucial call in any firms valuation; previously steps were taken to determine the components that impact the organization's fixed investment decision. Many elements that play a key role in the choice of the fixed investment of the companies and the studies undertaken by some of the researchers have been uncovered via such investigations. Some of the study has made significant contributions to the important topic of Business Finance. As a consequence, this study attempts to appreciate the numerous economic variables that influenced the fixed investment of various sample businesses in the Construction sector in India.

3. Research Methodology

3.1 Source of Data
Data required to perform the analysis on sample companies have been collected from various quarter and annual reports issued on the Bombay Stock Exchange, National Stock Exchange, website of investment.com and capitaline database.

3.2 Selection of Sample
i. Companies needs to exist that were established on or before 2006, i.e., 10 years before the time frame for the analysis has begun here, so that an initial period of at least 10 years has passed in order to reach at stable earning and invest in fixed assets;
ii. Companies must have had a paid-up capital of more than Rs. 1 Crore are included in the sample; and
iii. Firms must be constantly profitable for all six years (the study period) to make sure that only firms with consistent profitability are included.

On the basis of the above criteria, five companies are selected constituting the sample size for this study, they are
i. DLF Ltd.
ii. KEC International
iii. NBCC Ltd.
iv. NCC Ltd.
v. OBEROI REALTY

Variables studied:

Dependent variables:
ΔGB= Growth in Gross Block (gross fixed assets)
ΔPM= Growth in Plant and Machinery
Independent variables:
b_0 = the constant or intercept term,
ΔS = Change in Sales in time period 't';
GIF= Gross Internal Funds in time period 't';
NL= Stock of Net Liquidity in time period 't';
D = Dividends in time period 't';
ΔEC= Growth of Equity Capital in time period 't';
DBTOUT= Debt Outstanding in time period 't';
I= Interest Charges in time period 't';

Variables Explained
A brief description of the variables employed in this study, both dependent and independent, is provided. The dependent variables are Gross Block/Plant & Machinery, and there are seven independent factors listed above that impact the firms' and industries' investment in Fixed Assets.
Dependent Variables

i. ΔGB = Change in Gross Block
One of the dependent variables in this study is the increase in the value of assets. The increase in 'gross fixed assets signifies the development of installed production capacity in the business sector. The gross block contains plant and machinery, land and buildings, furniture and fixtures, electrical installation, and so on.
Fixed assets are those that cannot be converted into cash in the normal course of business. The firm keeps them for a longer amount of time to complete the project's objectives. These products are neither purchased nor sold regularly nor are they liquidated in the normal course of business, save as depreciation charged to the cost of goods sold. The ratio of fixed assets to total assets varies depending on the type of the firm. The share is particularly high in capital-intensive businesses and public utilities like shipping and electricity, but it is relatively low in banks and insurance firms. Because investing in new fixed assets necessitates additional funding, management should prepare ahead of time and reinvest the required funds from retained earnings rather than diluting their control by extending ownership. In the current study, the growth in the value of Gross Fixed Assets is used as a dependent factor to assess the influence of various factors of fixed asset investment.

ii. ΔPM = Change in Plant & Machinery
Another dependent variable is the increase in the value of Plant & Machinery. It is one of the company's fixed assets. Plant & Machinery is critical to the production process as well as the company's growth.

Independent Variables

iii. $\Delta S(b_1)$ = Change in sales
Net sales are the effective volume (or total revenue) of a firm from which profit is made. Deducting products returned, allowances, and discounts from the gross amount received from sales yields net sales. It is a crucial metric in firm growth research, i.e., investment in fixed assets over a period, net sales reflect the future direction and stability of the company's operation.

iv. $GIF(b_2)$ = Gross Internal Funds
Retained profits and depreciation are included in gross internal funds. The depreciation charge--the money set aside as a source to replace fixed assets after a given period--is a crucial element that determines fixed asset investment. Because depreciation, among other things, is a non-cash expenditure, it is deducted from revenues to calculate net profit after tax. When allocating a company's net profit across different heads, the management must examine a variety of criteria. The various reserves that are maintained, the requirement of working capital, the requirements of future investment in fixed assets, the situation of the capital and money markets, the shareholders' expectations of the returns on their investment, and so on will influence management's decision-making process regarding how much of the earnings must be distributed to the shareholders in the form of dividends and how much must be ploughed back or retained in the business. Because the size of retained earnings and depreciation determines the size of the company's investment in fixed assets, this quantity of gross internal funds is considered a key variable that influences the company's investment in fixed assets.

v. $NL(b_3)$ = Stock of Net Liquidity
Current liquidity is seen as a measure of current financing. This variable is included to investigate the impact of liquidity on the expansion of total Fixed Assets as well as Plant and Machinery. Net working capital is defined as Current Assets + Inventory - Current Liabilities. Working capital is required to enable the company to carry out its activities in the most cost-effective, comfortable, and without financial constraints; to expand its operations without the need for new financing, and to deal with emergencies and losses while avoiding disaster. Shortage of working capital slows bill payment, affecting the company's credit standing; makes it difficult for the company to take and extend cash and credit discounts; and limits its business operations by making it difficult to maintain inventories at a level where they can satisfactorily serve customer demand.

The firm can only function properly if it has enough operating capital to procure products, services, and supplies without constantly suffering credit challenges. To avoid these problems, management keeps a considerable share of their net income.

Positive net working capital shows that the company's short-term financial condition is strong and that it can pay off its current liabilities quickly. The magnitude of the stock of net liquidity is used as an independent explanatory variable to quantify the effect of working capital on fixed asset investment.

vi. $D(b_4)$ = Dividends

Another important element in a firm's position or growth of fixed assets is the dividend given out to the shareholders who receive the fruits of the company activities last.

This item appears as an 'Equity Dividend' on the firms' profit and loss appropriation statement. For this research, equity dividend comprises both the proposed annual dividend and any differed dividend paid to equity owners during the current period.

vii. $\Delta EC(b_5)$ =Growth of equity capital

The capital given by equity stockholders is represented by equity capital. The increase in equity capital is a strong measure of the overall efficiency with which the company's funds are used. As a result, this variable has been included in this study.

viii. $DBTOUT(b_6)$ =Debt outstanding

The expansion of the firm's fixed assets and Differed liabilities are inextricably linked. Long-term loans from financial institutions and debentures issued by the corporation are the primary elements of differential liabilities. The degree of reliance on outstanding debt varies per company. Thus, foreign finance is equally crucial as internal finance in the growth process of organisations.

ix. $I(b_7)$ =Interest on borrowed funds

Interest paid is a significant component influencing net profits and an indirect factor influencing fixed asset investment. It covers interest on Debentures as well as all other borrowed monies. If the debt is high, as it is in many circumstances, a substantial amount of earnings is consumed by interest payments, leaving just a little fraction for the owners. At the current moment, no one can afford to buy fixed assets with high-interest rates. The corporation counts interest payments as chargeable expenditures for calculating income tax payable, so if borrowed funds can be used to earn more than what has to be paid in interest, shareholders would benefit.

Stepwise Regression

The current study largely depends on stepwise multiple regression analysis. This approach begins with a basic correlation matrix and regress the explanatory variables that are related to the dependent variable to highest degree. The software then chooses the next variable to join the model based on the partial coefficients computed concerning the other variables. Stepwise regression enables the analyst to begin with many of the variables that might have predicted values and subsequently use the model to determine those that likely to provide the estimate. (Armstrong and Hilton 2010) (Leigh 1988).

Statistical analysis

This study's data was processed using a computer. Multiple linear stepwise regression was used to identify the order of relevance of numerous factors impacting the dependent variable in the research in terms of explanatory power. To put it another way, which independent variable has the greatest impact on the dependent variable? What percentage of the response variable is responsive to changes in the explanatory variables? By using this method, a real picture of the significance of the many independent factors that have an influence on financing investment in India's corporate industries is provided.(Brown 1993).

Models built

The study is completed based on three models. All of these models will be tested in the case of each company.
   i.   Adding Model
   ii.   Constant Model
   iii. Elimination Model

   i.   Adding Model

In this model, one explanatory variable is put into the model at initial phase, and then next explanatory variable is induced to the previous one, and so on until all of the independent variables are included and assessed.

Understated equations are estimated under Adding model.

1. ΔGB or $\Delta PM = b_0 + b_1 \Delta S$
2. ΔGB or $\Delta PM = b_0 + b_1 \Delta S + b_2 GIF$
3. ΔGB or $\Delta PM = b_0 + b_1 \Delta S + b_2 GIF + b_3 NL$
4. ΔGB or $\Delta PM = b_0 + b_1 \Delta S + b_2 GIF + b_3 NL + b_4 D$
5. ΔGB or $\Delta PM = b_0 + b_1 \Delta S + b_2 GIF + b_3 NL + b_4 D + b_5 \Delta EC$
6. ΔGB or $\Delta PM = b_0 + b_1 \Delta S + b_2 GIF + b_3 NL + b_4 D + b_5 \Delta EC + b_6 DBTOUT$
7. ΔGB or $\Delta PM = b_0 + b_1 \Delta S + b_2 GIF + b_3 NL + b_4 D + b_5 \Delta EC + b_6 DBTOUT + b_7 I$

ii.   Constant Model
        Because the first two independent variables (gross internal funds and stock of net liquidity) are so closely related to the dependent variables, they are maintained constant in this model, whereas the third variable changes in each model.

        Understated equations are estimated under Constant model.
        1. ΔGB or $\Delta PM = b_0 + b_1 GIF + b_2 NL + b_3 \Delta S$
        2. ΔGB or $\Delta PM = b_0 + b_1 GIF + b_2 NL + b_3 D$
        3. ΔGB or $\Delta PM = b_0 + b_1 GIF + b_2 NL + b_3 \Delta EC$
        4. ΔGB or $\Delta PM = b_0 + b_1 GIF + b_2 NL + b_3 DBTOUT$
        5. ΔGB or $\Delta PM = b_0 + b_1 GIF + b_2 NL + b_3 I$

iii.   Elimination Model
        The estimated equations in the elimination model are not same in every cases but the count of equations calculated depends on the relevance of the variables that were found to be important.

        When estimating the equations, the following approach is used. Initially, the model includes all of the explanatory variables. Based on the importance of 'p' values, the variable with the least value is deleted, and the equation is calculated again with the rest of the explanatory variables. The variable with the lowest 'p-value is removed once again, and the equation is calculated. This method is repeated until all of the explanatory variables in the equation becomes significant at the 5% or 10% level.
        The above 12+ equations are calculated for each of the five firms and Construction industry aggregates. The total number of calculated equations is as follows:
        For five companies & Construction industry aggregates in two cases, (for gross block and plant & machinery as two dependent variables):
        In Adding model= 7*6*2=84
        In the Constant model= 5*6*2=60
        In Elimination model=70
        Total number of Equations= 214
        Thus, 214 equations have been calculated using all essential tests and data for 6 years in each example.

Selection of the best model
        Step – I
a.   Based on their derived 'p' values, the intercept term (b_0) and additional regression coefficients (b_1, b_2, b_3) are evaluated at the 5% level of significance. If just one equation is identified with all the independent variables are significant at the 5% level, that equation is chosen as the best model to explain the company's fixed investment behaviour. If, on the other hand, two or more equations are determined to be significant at the 5% level for all explanatory variables, the approach described in step II is followed.

b.   If there is no single equation in a company where all of the explanatory variables exhibit significance at the 5% level, the significance threshold is dropped and the variable's effect is explored at the 10% level if suitable. Elements that are negligible at the 5% level are explored at the 10% level in this scenario. However, this occurred in only a few occasions throughout our analysis. If just one equation with 5% or 10% significant explanatory variables is found, that model is selected as the best model to explain the company's fixed investment behaviour. However, if two or more equations with explanatory variables are significant at the 5% or 10% level, the procedure described in Step II is used to choose the best model.
        Step – II

        As indicated in step I, if there are two or more equations in which all of the explanatory variables are relevant, the equation with the greatest R^2 is chosen as the best equation to describe the company's fixed investment behaviour.

4.   Analysis of the regression results of firms in the construction industry

This section examines the investment behaviour of sample enterprises in the Construction Industry using two dependent variables: Gross Block (Y1), Plant, and Machinery (Y2). This study focuses on seven explanatory factors that affect fixed asset investing behaviour (Y1 and Y2). This investigation is based on three models: the Adding model, the Constant model, and the Elimination model. There are seven calculated equations in the Adding model. The estimated equations in the Constant model are five, however, the calculated equations in the Elimination model are not fixed, but the count of equations depends on the relevance of explanatory variables.

Table 1 is associated with the independent variable change in sales. This shows the number of significant equations obtained after the statistical analysis in all three models for both dependent variables separately. This table also shows the number of significant equations for change in sales as an independent variable when the construction industry is taken as the aggregate of all five firms. Table 2 is associated with the independent variable Gross internal funds. This shows the number of significant equations obtained after the statistical analysis in all three models for both dependent variables separately. This table also shows the number of significant equations for Gross internal funds as an independent variable when the construction industry is taken as the aggregate of all five firms. Table 3 is associated with the independent variable stock of net liquidity. This shows the number of significant equations obtained after the statistical analysis in all three models for both dependent variables separately. This table also shows the number of significant equations for stock of net liquidity as an independent variable when the construction industry is taken as the aggregate of all five firms. Table 4 is associated with the independent variable Dividends. This shows the number of significant equations obtained after the statistical analysis in all three models for both dependent variables separately. This table also shows the number of significant equations for Dividends as an independent variable when the construction industry is taken as the aggregate of all five firms. Table 5 is associated with the independent variable Growth of Equity capital. This shows the number of significant equations obtained after the statistical analysis in all three models for both dependent variables separately. This table also shows the number of significant equations for the Growth of Equity capital as an independent variable when the construction industry is taken as the aggregate of all five firms. Table 6 is associated with the independent variable Debt Outstanding. This shows the number of significant equations obtained after the statistical analysis in all three models for both dependent variables separately. This table also shows the number of significant equations for Debt Outstanding as an independent variable when the construction industry is taken as the aggregate of all five firms. Table 7 is associated with the independent variable Interest on borrowed funds. This shows the number of significant equations obtained after the statistical analysis in all three models for both dependent variables separately. This table also shows the number of significant equations for Interest on borrowed funds as an independent variable when the construction industry is taken as the aggregate of all five firms.

The following abbreviations are used in the tables:

N.F -Count of companies in which the independent variable is significant.
5% - Count of equations where the independet variable is significant at the 5% level.
10% - Count of equations in which the explanatory variable is significant at the 10% level.
C.I - Construction Industry (the number of equations calculated)
A.M - Adding model; C.M - Constant model; E.M - Elimination model.

Table 1. Change in Sales

Independent Variable: CHANGE IN SALES (b_1)							
Gross Block (Y_1)				Plant and Machinery (Y_2)			
	A.M	C.M	E.M		A.M	C.M	E.M
N.F	1	1	1	N.F	2	1	2
5%	5	-	2	5%	-	-	3
10%	2	1	-	10%	2	1	3
C.I	7	5	7	C.I	7	5	7
5%	-	-	-	5%	3	1	5
10%	3	-	-	10%	3	-	1

Table 2. Gross Internal Funds

Independent Variable: GROSS INTERNAL FUNDS (b_2)							
Gross Block (Y_1)				Plant and Machinery (Y_2)			
	A.M	C.M	E.M		A.M	C.M	E.M
N.F	4	2	3	N.F	-	1	2
5%	4	1	7	5%	-	1	3
10%	3	2	3	10%	-	-	1
C.I	7	5	7	C.I	7	5	7

5%	-	-	-	5%	-	-	-
10%	-	-	-	10%	-	-	1

Table 3. Stock of Net Liquidity

Independent Variable: STOCK OF NET LIQUIDITY (b_3)							
Gross Block (Y1)				Plant and Machinery (Y2)			
	A.M	C.M	E.M		A.M	C.M	E.M
N.F	3	1	2	N.F	1	2	5
5%	1	2	8	5%	-	1	10
10%	4	3	3	10%	1	4	3
C.I	7	5	7	C.I	7	5	7
5%	-	1	5	5%	-	-	-
10%	-	-	-	10%	-	-	-

Table 4. Dividends

Independent Variable: DIVIDENDS (b_4)							
Gross Block (Y1)				Plant and Machinery (Y2)			
	A.M	C.M	E.M		A.M	C.M	E.M
N.F	1	-	1	N.F	1	-	2
5%	3	-	2	5%	3	-	4
10%	-	-	-	10%	-	-	2
C.I	7	5	7	C.I	7	5	7
5%	-	-	-	5%	-	-	-
10%	-	-	3	10%	-	-	-

Table 5. Growth in Equity Capital

Independent Variable: GROWTH IN EQUITY CAPITAL (b_5)							
Gross Block (Y1)				Plant and Machinery (Y2)			
	A.M	C.M	E.M		A.M	C.M	E.M
N.F	2	1	2	N.F	-	1	1
5%	6	1	7	5%	-	-	2
10%	1	-	1	10%	-	1	2
C.I	7	5	7	C.I	7	5	7
5%	-	-	-	5%	-	-	-
10%	-	-	-	10%	-	-	-

Table 6. Debt Outstanding

Independent Variable: DEBT OUTSTANDING (b_6)							
Gross Block (Y1)				Plant and Machinery (Y2)			
	A.M	C.M	E.M		A.M	C.M	E.M
N.F	-	-	1	N.F	-	-	1

5%	-	-	-	5%	-	-	-
10%	-	-	1	10%	-	-	1
C.I	7	5	7	C.I	7	5	7
5%	-	-	-	5%	-	-	-
10%	-	-	-	10%	-	-	-

Table 7. Interest on borrowed funds

Independent Variable: INTEREST ON BORROWED FUNDS (b_7)							
Gross Block (Y1)				Plant and Machinery (Y2)			
	A.M	C.M	E.M		A.M	C.M	E.M
N.F	-	-	2	N.F	1	1	3
5%	-	-	1	5%	-	1	4
10%	-	-	1	10%	1	-	3
C.I	7	5	7	C.I	7	5	7
5%	-	-	-	5%	-	-	-
10%	-	-	-	10%	-	-	-

5. Results and Discussion

The elimination model outperformed rest two models while explaining the behaviour pattern of investment of plant and machinery separately and total fixed assets when plant and machinery included. Results obtained from the analysis suggest that the Stock of Net Liquidity plays a more important role in the investment in almost all the companies in this study. Gross Internal Funds (retained earnings + depreciation), and Change in Sales are the second most significant determinants of fixed investment in the present study. The current study's findings imply that profit-making is an important part in business investment decisions. Retained earnings and dividend policies are influenced by the firm's profits. Retained earnings have an impact on investment. Dividends have an impact on the flow of external funding, while earnings have an impact on dividends. External finances also have an impact on investment. Profits influence investment both directly and indirectly through retained earnings and outside finance. It is crucial to ensure that higher profitability is not lost through dividend payments because retained earnings play a significant role in investment decision-making. It could be preferable to support asset expansion through internal savings against borrowing since self-financing is not inflationary.

6. Conclusion

In the past, there has been considerable interest in many sectors over the level of growth of larger firms in terms of increased fixed assets, sales, and profits. This research is limited to the expansion of net fixed assets. Given the preceding discussion, it is critical to understand the variables responsible for the expansion of fixed assets and plant and machinery separately. Through this study, an attempt was made to analyse the fixed investment pattern of the construction industry of India. To perform this study, five construction companies and six years of study period have been fixed. To find the best model, which determines the investment behaviour in fixed assets, a statistical method is used. Observing the financial statement and various literature related to the topic, notable variables are selected to perform the required analysis. After completion of calculation and analysis, one can say that Stock of Net Liquidity, Gross Internal Funds and Change in Sales are the determinants, which will impart high influence in investment policy-making to increase the Fixed Assets in selected firms. These three variables are found to be significant in almost every firm and Construction Industry considered as a whole.

7. Limitations of the study

1. The firms selected are from Indian Construction Industry, so the results are limited for implementation in Indian Construction Industry.
2. There are many packages available to perform statistical analysis in this study. Selecting the right package is necessary to perform statistical calculations.

3. This study is done for the explanation of investment behaviour in fixed assets and it does not intend to recommend any policy measures to any firm associated with Indian Construction Industry.

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