Chapter-1

Introduction
CHAPTER I
INTRODUCTION

The study of Investment behaviour and its determinants has attracted a good deal of attention in recent years both in India and abroad. The objective of this study is to analyse the fixed investment pattern of the corporate sector in India.¹

The Indian corporate sector:

The corporate sector has been playing an important role in the industrial development of the economy. It belongs to one of the three main divisions of the private sector, namely; corporate, cooperative and household. During the course of the five-year plans, this sector shared with the public sector a great responsibility for industrial development of the economy and has contributed to economic development by bearing the burden of relatively low efficiency² of the public sector.

Industrialisation, in the Indian context, refers to the growth of manufacturing industry to assist the process of economic development. In order to have a balanced development of the economy, government control is directed to stimulate the stagnating industries and to strengthen and expand the industrial base. However, government control, in some cases, may retard the growth of development of industries in the private sector by affecting the

¹ The corporate sector refers to public and private limited companies in the private sector and all government companies and non-departmental public sector undertakings.
free functioning of the price mechanism in the product as well as the capital markets. Therefore, government policy decisions in respect of industrial policy aim at minimising the loss.

The industrial policy in India was first announced in 1948. This policy aimed at a mixed economy and reserved for the government a complete authority to regulate the industry in the national interest. From the time of the implementation of the Industries Act in 1951, industrial policy has been increasingly used to regulate private sector. However, the absence of well-ordered priorities and the explicit economic criteria for weighing the different objectives resulted in scepticism about the soundness of the policy. Delays in the proper implementation weakened the effectiveness of the policy.

Though the industrial licensing policy is directed towards a segment of the industrial sector, its influence is pervasive in the availability of funds to the other segments of the industries. The licensing policy has been generally directed to (i) Creation of additional capacity to fulfil rising internal demand and to increase exports, and (ii) Curb undue expansion of industries wherever necessary. This policy has been helpful in fulfilling certain plan targets such as the creation of additional capacity in industries like Iron and Steel, Cement, Paper and paper products, whereas it did not lead to a proper development of Engineering & Chemical industries.

Economic reforms process in India has started in 1980s, but it has got logically consistent shape only since 1991. The package of economic reforms in India consists of a) deregulation and liberalization of all markets b) increasing competitiveness in all spheres of economic activities and c) living within the means or a strong budget constraint on all economic agents. Measures undertaken under economic reforms in India include decontrol and deregulation

3. Second five-year plan (1956,1)
4. Third five-year plan (1961,1)
of industry and service sectors, disinvestment of public sector undertakings, opening of the economy for foreign investment and steps to integrate the economy into the world system. During the post economic reforms (1991-97), India has made some significant achievement in economic growth, industrial production especially capital goods industries, export sector and foreign investment.

**Fixed Investment**

The planning process of every firm involves three decisions:

(i) Decisions regarding the production process in which the quantity to be produced, the employment of factors of production, and the type of technology to be used;

(ii) Investment decisions, which deal with the amount of expenditure to be made in various assets (current and fixed); and

(iii) Financial decisions involving the determination of funds raised from various available sources and their optimum utilisation.

These three decisions are interdependent and the firm makes these decisions simultaneously.

After the production decisions are made, the firm plans for the expenditure required for addition to the total assets. This part of the policy decisions involves the relative proportions of current and fixed assets added. At this level the firm determines the policy for investment in fixed assets and investment in current assets. The determination of these proportions of the investments in total expenditure is quite important because of the complementary as well as substitutable nature of the two types of investments.

Investment here means, addition to the capital stock and the capital stock is represented by the total assets, because expenditure is incurred on acquiring additional assets. Total assets may be divided into two parts: current and fixed
assets. The proportion of fixed and current assets in total assets varies from firm to firm and industry to industry. Therefore investments in fixed assets and investment in current assets have been found to be subjects of general interest.

Structure of the Gross Fixed Assets

The expression 'gross fixed assets', often considered to be analogous to 'fixed capital' denotes the employment of capital in permanent assets. The fixed assets are held by a company with the object of earning revenue directly or indirectly and not for the purpose of sale in the ordinary course of business. The fixed assets include land and buildings, plant & machinery and other fixed assets such as capital work in progress, vehicles, furniture, office equipment etc. The investment in the fixed assets is the first initial step in establishing a corporation. The nature of the business, its initial size, scale and scope of operations are the basic factors, which determine the minimum initial investment in fixed assets. Thus, business firms engaged in rendering personal services, merchandise, commerce and trade may need very little fixed investment, while industries manufacturing heavy and capital goods are likely to invest a major part of their funds in fixed assets.

At present empirical studies of investment behaviour are quite varied in their approach, reflecting a number of theories or hypothesis. An attempt is made below to discuss these hypotheses broadly under four main headings.

1. NEOCLASSICAL THEORY OF CAPITAL ACCUMULATION:

Central theme of this theory is that the demand for factors of production is responsive to changes in relative factor prices or the ratio of factor prices relative to the price of output. This approach maintains that changes in cost of capital induce changes in investment behaviour by changing the implicit rental price of capital services and further the changes in the implicit rental price of capital
services lead to changes in the desired stock of capital. This theory has been advocated by Jorgenson\textsuperscript{5} and associates. However the theory based on the neoclassical theory of optimal capital accumulation was found to be inadequate as widened by the results of empirical studies of Eisner and Nadiri\textsuperscript{6}.

Characterizing the earlier attempts as integration of investment behaviour with neo classical theory of capital accumulation as not fully rigorous, Jorgenson gives that a correct formulation of the theory. His basic point is that it is on the basis of the neo-classical assumptions and that resulting theory provides a framework for the principal econometric models of investment behaviour. The alternative theory based on utility maximisation, he notes, conflicts with much of the literature on the cost of production functions.

2. PROFIT THEORY:

The main proposition of profit theory of investment behaviour is: Greater the gross profits, greater will be the level of internally generated funds and in turn greater will be the rate of investment. Eisner found that while simple correlation between investment and profit is statistically significant, inclusion of “sales change” variable in the model reduces the profit investment relationship to be non-significant. Because profit acts as a proxy variable for “sales change”


Myer & Kuh observed that the practical recognition of the importance of institutional changes led, in recent years, the theory of firm and consequently the theory of investment in plant and equipment from profit maximisation criterion to utility maximisation. This move represents a growing belief that profit maximisation is too narrow to encompass the full scope of modern entrepreneurial motives for undertaking the new investment.

3. LIQUIDITY THEORY:

In the liquidity theory of investment behaviour, desired capital is proportional to liquidity. This may be expressed as:

\[ K_t = a l_t \]

Where \( K_t \) is the desired capital investment in the year, \( l \) and \( a \) is the desired ratio of capital to the flow of internal funds available for investment in the year \( t \) (ie.\( l \)). Internal funds available for investment expenditures are measured by profits after taxes plus depreciation less dividend paid. This liquidity measure was converted into constant prices by dividing the current value of internal funds by the investment goods price index. The resulting measure of liquidity was suggested by Kuh on the ground that the affects of liquidity could be distinguished from those of output.

4. ACCELERATION PRINCIPLES:

Another approach to explaining investment behaviour has been through the acceleration principle. The accelerator hypotheses in concentrating on the dynamic aspects of investment have impressed on theoretical work the importance of growth as determinant of investment.

MEYER, JOHN R AND EDWIN KUH, Investment, Liquidity and Monetary Policy, Commission on Money and Credit (1963).
Clark was the first to expound the acceleration principle, which explains a direct positive relationship between the rate of change in the flow of output or sales and additions to the stock of capital. Specifically, additions to the stock of physical capital could be considered a function of the rate of change in output. This concept was later modified and popularised by Chenery, who considered the level of output instead of rate of change in output.

Thus acceleration principle assumes a technical relationship between output and capital stock, suggesting that investment demand is induced by increase in demand for output. The unconstrained operation of acceleration principles assumes.

- Full utilisation of capacity
- Stock changes are permanent in character
- Ratio of sales to output will be constant and
- Firms are not on declining phase of their life cycle.

In the context of Indian Corporate sector Krishna Murthy and Sastry inferred that the acceleration hypothesis has some validity in some Indian industries for the explanation of investment behaviour. Eisner also noted that since the major objective is to improve understanding of dynamic time series behaviour of investment, the acceleration sales model is superior to the internal flow of funds and profit models.

Factors influencing the investment policy in fixed assets

Control

Investment policy may be influenced by stockholder or managerial control motives. If a controlling interest does not wish new shares to be sold, the firm’s only source of new equity will be retentions. This may impel the firm to maintain a low payout ratio to compensate an adequate supply of new equity money.

Inflation

Inflation is one of the important factors, which directly influence the investment policy. Since the accounting system is based, in majority cases, on historical costs, depreciation is charged on the basis of original costs at which assets have been acquired. As a result, when prices rise, funds generated by depreciation would not be adequate to replace assets or to maintain the capital intact. Consequently, to maintain the capital intact and preserve the earning power of the firm, the earnings would have to be retained and reinvested in the firm.

Stock holder requirements:

Taxes and demographic characteristics influence the investors’ preference between capital gains and current yield. Stockholders in higher tax brackets would prefer to postpone current income for capital gains, which would be taxed at a low rate. Stockholders in lower tax brackets would have a greater preference for current income. Similarly, stockholders in higher age brackets would prefer current income and stockholders in lower age brackets would prefer long-term capital gains. To some extent, investors are attracted to a firm because of its investment policy.
Earnings stability:

Stability of earnings stream also affects fixed investment policy. In general, the more stable is the company's income stream, the higher is its fixed investment.

Access to capital markets

A large, well-established firm with a record of profitability and some stability of earnings will have easy access to capital markets and other forms of external financing. The small, new or venturesome firm, however, is riskier for potential investors. Its ability to raise equity or debt funds from capital markets is restricted and it must retain more earnings to finance its operations. A well-established firm is thus likely to have a higher investment rate than a new or small firm.

Liquidity requirements

A typical firm generates cash flows on a continuous basis. A growing firm will be able to invest its profits and depreciation funds quickly in fixed assets.

Apart from these factors, factors like the legal constraints, company's experience, objectives and pattern of operations, the attitude of management, the investment policies of competing companies etc., have a direct bearing on fixed investment decisions of a company.

Structure of the study

The thesis contains six chapters. In chapter I the theoretical aspects of the fixed investment like the importance of the investment in fixed assets policy in the economic environment of a company, the industrial policy, the meaning and structure of the fixed investment, and the various factors which influence the fixed investment by the companies are discussed.
A review of the other relevant studies on the fixed investment policy done both abroad and in India is made in chapter II.

Chapter III deals with the objectives, methodology and limitations of the study.

The fixed investment behaviour of individual firms and industries are discussed in chapter IV. This chapter is divided into eight sections, each section dealing with the independent variable-wise analysis of the regression results of individual firms in each of the eight sample industries. A summary of the independent variable-wise results of all the sample firms in the industry is given in the beginning of each section, which is followed by an analysis of the regression results of each sample firm in that industry. Thus the analysis of the regression results of all the 74 companies of eight industries is given in chapter IV.

The selection of the best equation from the regression results of individual firms and industries are discussed in chapter V. This chapter is divided into eight sections, each section dealing with the analysis of regression results of individual firms in each of the eight sample industries.

The econometric problems in the study are discussed in chapter VI, which is divided into three sections to deal with multicollinearity, autocorrelation and heteroscedasticity problems separately. In each section the meaning of the problem and the existence of the problem in the present study are explained. Though computations of these problems have been made and presented for all the estimated equations, the analysis is confined only to the best models, which are beset with these econometric problems.

A summary of the work done and the conclusions drawn from the study are presented in chapter VII.