CHAPTER 1
DESIGN OF THE STUDY

1.1 Introduction

Saving is a strategic variable in the theory of economic growth. Role of saving as a determinant of economic growth has been emphasised by the classical economists like Adam Smith, Ricardo and Mill. Keynes (1936)\(^1\) places the saving function or its counter part consumption function at the very heart of the macro economic system. In the growth models also we find lucid expression of the importance of saving where it forms a key parameter and a pivotal determinant of the rate of growth. According to Lewis (1954)\(^2\), the central problem in the theory of economic development is to understand the process by which a community which was previously saving and investing four or five percent of its national income changes into an economy where voluntary saving is running at about twelve to fifteen percent or more of the national income.

For an individual, the acquisition of more wealth enables him to safeguard against future contingencies and thus provides him with a cushion of security. At the national level saving is the wherewithal of supporting investment in the economy. To achieve higher rate of economic growth with relative price stability, the marginal propensity to save should be raised by


appropriate incentives and policies. Rao (1980)\textsuperscript{3} opines that saving constitute the basis for capital formation, and capital formation constitutes a critical determinant of economic growth. A national saving ratio broadly in line with the economy’s investment needs is the key to reduce the country’s vulnerability to unexpected shifts in international capital flows. As the international financial integration is increasing, higher domestic saving will ensure macro economic stability also. In developing countries like India income is quite uncertain and unpredictable and therefore saving provides a buffer to maintain the already lower level of consumption.

1.2 The concept and Issues

Ahmed (1982)\textsuperscript{4} has defined saving as an act of refraining from spending one’s income on consumption. According to Panikar (1970)\textsuperscript{5}, saving stands for the portion of income so saved that is available for expenditure in future either for consumption or investment. For the committee of statistical experts of League of Nations, saving is ordinarily dependent on the definition of income. Personal saving is the difference between disposable personal income and personal consumption expenditure.

Saving may be understood either as a stock concept or as a flow concept. As a stock concept, saving stands for the change in the individual’s or group’s net worth and is measured by using the balance sheet method. As a flow concept, saving of an individual or group is defined as the earned surplus,

that is the difference between current income and expenses and the income account method is popularly used to measure it.

As saving is considered as income minus consumption, theories explaining consumption behaviour also explains saving behaviour. In the economic literature there are ample studies to explain the determinants of consumption behaviour in developed and developing countries. It was the Keynesian Absolute Income Hypothesis that provoked the later period economists to go for a reasonable explanation for the existing saving behaviour. Among the different hypotheses that were widely debated, the most important are the Relative Income Hypothesis of Duesenberry (1949)\textsuperscript{6}, The Permanent Income Hypothesis of Friedman (1957)\textsuperscript{7} and the Life Cycle Hypothesis of Modigliani, Brumberg and Ando (1954)\textsuperscript{8}.

Keynes (1936)\textsuperscript{9} on a priori basis hypothesised that the marginal propensity to consume (MPC) is a positive function of disposable income and that the average propensity to consume (APC) declines, both for individuals and for the economy as a whole as their income increases. All else being equal, the rise in absolute income will lead to decrease in the fraction of that income devoted to consumption. Tobin (1951)\textsuperscript{10} and Smithies (1945)\textsuperscript{11} further

\textsuperscript{6} Duesenberry, T.S. (1949), Income, Saving and the Theory of Consumer Behaviour, Cambridge University, pp.56-123.
\textsuperscript{9} Keynes, J.M. (1936) Op cit.,p.138
\textsuperscript{10} Tobin James (1951) "Relative Income, Absolute Income and Saving", in Money, Trade and Economic Growth: Essays in Honour of John H. Williams, New York pp.161-188.
developed this hypothesis. As the absolute level of the family’s income determines the division between consumption and saving, this hypothesis predicts a decline in the average propensity to consume of the average family when families move up a higher income level.

The underlying behavioural assumption of Relative Income Hypothesis developed by Duesenberry (1949)\textsuperscript{12} is that the utility of the consumer is derived not from the absolute level of consumption, but from a level that is judged in relation to both the consumer’s own past standards and the consumption standards of others. A household’s consumption is determined not by its absolute income, but by its position in the income scale relative to its reference group, that is by its relative income. The consumption function proposed by him may be stated as \((c/y)t = \alpha + \beta \frac{(y/y^0)}{t} \beta<0\). Thus, if, over time, the absolute level of real national income is rising and a household experiences an increase in its absolute income, while maintaining its relative income position in the income distribution, its APC remains unchanged. If on the other hand, a household moves to a higher income group its APC will fall to the level of that income group in which the household now finds itself. With this consumption function Duessenneberry could reconcile with the empirical evidences of lower short run MPC compared to higher long run MPC and the variations of short run APC and MPC over the trade cycle.

The income in the findings of time series and cross section studies stood as a riddle in front of the researchers. The Relative Income Hypothesis could not completely explain these inconsistencies. Friedman (1957)\textsuperscript{13} while

\textsuperscript{12} Duesenberry (1949) Op cit.,p.88
\textsuperscript{13} Friedman, Milton (1957) Op cit.,p.237
trying to resolve them proposed that the basic determinant of consumption is not income but wealth. On the assumption that consumers take account of future income and future consumption possibilities when planning current consumption, changes in current income which Friedman calls measured income, will only affect current consumption by way of resulting changes in wealth. The household’s wealth is the present value of the future flow of income which is expected by the household to be varying from year to year. Assuming an infinite time horizon, permanent income is the stock of wealth multiplied by the interest rate or annual return on wealth. It is that part of the household’s measured income which is regarded as stable and as reflecting the household’s income expectations. The difference between measured income and permanent income, which may be positive or negative, is termed as transitory income, by Friedman, and occurs due to temporary and unanticipated changes in current income. For Friedman, permanent consumption is planned on the basis of permanent income and the relationship between the two variables is proportional. The co-efficient of proportionality which is the true underlying MPC and APC is assumed to depend on the household’s saving decisions, namely, household preferences, the nature of uncertainties facing the household, the rate of interest and the ratio of human to non-human wealth. The higher the ratio of human to non-human wealth the greater is the incentive to save and acquire non-human wealth. Thus, any positive transitory income is not spent on consumption, but is saved. Any change in measured income will affect current consumption only if they cause the household to alter its estimate of permanent income.
The Life Cycle Hypothesis (MBA model) is based on the argument that "the rate of consumption in any given period is a fact of a plan which extends over the balance of the individual's life, while the income accruing within the same period is but one element which contributes to the shaping of such a plan." (Modigliani and Brumberg 1954). The typical individual maintains a nearly constant or perhaps slightly increasing level of consumption over his life cycle, although a different pattern is displayed by income. Given that the household has a known life span and intends to leave no legacies and given certainty, the motive for saving is to rearrange time consumption in relation to the expected future income stream. In the MBA model, a high life time income stream results in a related high level of consumption and associated asset accumulation. The hypothesis assumes that the household's current consumption is proportional to its total resources, the factor of proportionality depending on the interest rate used to discount future income and tastes and age of the household. The result of a change in current income or consumption depends on the effect of that change on the household's total resources. According to the MBA model, each age group has a proportional relationship between its consumption and total resources, the co-efficient of proportionality being lower for middle aged households than for the young and the old. The middle years are a period when income is relatively high, consumer durables have been acquired and there is a need to accumulate assets with which to finance consumption upon retirement. The individual aims at zero saving during the whole life, investing at one time and disinvesting at another.

Thus, the post Keynesian theories have not denied, the Keynesian formulation that income is the most significant determinant of saving. However, due to better theoretical foundations certain new aspects have been introduced in the relationship. But no consensus in support of any of these hypotheses formulated for the developed countries is found in the empirical studies relating saving to income in developing countries. Below an attempt is made to review the available literature which is inevitable for problem formulation.

1.3 Review of Literature

The researchers world over have undertaken empirical studies to examine the factors affecting saving behaviour and the volume of saving. There are studies based on time series data, cross section data and family budget surveys. Studies with macro and micro perspectives with reference to developed and developing countries are also available.

Kuznets (1960)*15, in his comprehensive cross sectional study of the relationship between saving and per capita income for two groups of countries comparing 56 and 14 countries has indicated a tendency for high per capita income countries to have higher saving ratios. However, his study failed to examine the formulation of a saving function related to per capita output as the single independent variable. He has also found that saving cannot increase indefinitely with income. In free economies, the income share of high income,

* In the review of literature section, the entire texts of the material are reviewed and hence page numbers are not mentioned.
high saving groups cannot aim too high due to socio-economic pressures and have set a lower upper limit to rising saving ratio. For lower and middle income groups saving ratio is beset with a lower upper limit due to demonstration effect.

Hauthakker (1965)\textsuperscript{16} in his study to identify the determinants of saving in developed and underdeveloped countries has found that international per capita saving tends to be proportional to per capita disposable income and that in the developing economies variations in propensities to save become greater.

Johnson and Chiu (1968)\textsuperscript{17} ran time series regression for household saving on household income and private saving on private income for 30 countries including developed and developing countries. Majority of the results show a positive correlation between saving and income. These results suggest that at best both household saving and private saving are proportional to household income and private income respectively.

Friend and Taubman (1966)\textsuperscript{18} involving data from twenty one developing countries conducted a permanent income oriented study. They examined changes in saving as related to changes in permanent and transitory income and found the marginal propensity to save out of permanent income to be much larger than the marginal propensity to save out of transitory income. Even though their study suffered from the problems of the use of lagged saving.

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as a proxy for non-existent asset data and their estimates of marginal propensities and to be overly sensitive to small changes in model specification, their model proved useful as a foundation for succeeding studies.

Williamson's study (1968)\(^{19}\) investigates the role of permanent income in several developing Asian economies using Friend-Taubman approach. His findings concerning the marginal propensities to save out of current, permanent and transitory income are in broad agreement with the findings of Friend and Taubman.

Roy Choudhary's study (1968)\(^{20}\) of Indian households uphold the findings of Friend and Taubman. For him, household assets are equal to base year residential house property plus accumulated household saving. He has found that permanent income has a significant effect on rural consumption but negligible effect on urban consumption.

Kelley and Williamson (1968)\(^{21}\) applied the MBA hypothesis to saving in Indonesia by regressing per capita household saving against per capita household income for five household age groups. They have found that the age of the head of the household is an important determinant of household saving in rural areas and that the average and marginal saving rates rise with the share of agricultural income and the presence of positive interaction between wealth and saving.


\(^{20}\) Roy Choudhary, U.D. (1968) "Income, Consumption and Saving in Rural and Urban India", Review of Income and Wealth, Series 14, No.1

Ramanathan (1968)\textsuperscript{22} in his study on India reports evidences of a positive interaction between wealth and saving. He incorporates wealth into the saving functions directly and through the normal wealth hypothesis of Crocket and Friend (1967)\textsuperscript{23} which postulates that saving depends on the difference between actual wealth and normal wealth. His findings support a normal wealth hypothesis particularly when households are classified by occupation and age.

Bhatia (1967)\textsuperscript{24} in his attempt to study the effect of taxes on levels of private and public consumption, uses cross sectional data for 20 African countries. His study reveals that for every one per cent increase in the tax GDP ratio private consumption decreases by 0.05 percent of GDP leading to a net increase in the mobilisation of investment funds.

Leff (1969)\textsuperscript{25}, while studying the influence of demographic variables on saving has found substantial evidences to argue that age structure, as expressed in the dependency burden, plays a significant role in the determination of saving ratio. He found that dependency ratio has a strong negative effect on saving. For him, while large income differences are associated with appreciable differences in saving rates, the effects of higher income appears to be considerably reduced when dependency variables are included in the analysis.


\textsuperscript{24} Bhatia, R.A. (1967) "A Note on Consumption, Income and Taxes". International Monetary Fund, Departmental Memoranda DM/67/70 November.

Rahman (1968)\textsuperscript{26} has explained the relationship between capital imports and saving. To test this hypothesis he regressed the average propensity to save for 31 less developed countries against the ratio of net capital imports to gross national product and found that foreign funds cause a relaxation of government saving and thus a reduction of the average national saving rate.

Krishnamurthy (1968)\textsuperscript{27} employed a cross sectional analysis of 35 developing countries and time series analysis for 12 developing countries to test the relationship between marginal tax rate and both the marginal propensity to save and marginal propensity to consume. He could not find any effect of marginal tax rate on the aggregate MPS even though increases in the marginal tax rate reduced the MPC of households.

Diwan (1968)\textsuperscript{28} in his study on the effect of prices on saving in India, studied a saving function involving income, current price level and rate of change in the price level (a priori for price expectations) and found that price level affects saving negatively, but price expectations have a positive effect. However, the total effect of prices on saving was found to be negative.

Chinery and Eckstein (1970)\textsuperscript{29}, in their empirical study to test the Keynesian saving function in sixteen Latin American countries developed a


saving function. Their study has shown that without the exception of four countries, marginal propensity to save is positive and it is between zero and 30 per cent.

Gupta (1970)\textsuperscript{30} using annual time series data from India has analysed the determinants of saving. He has found that permanent income hypothesis is a better fit in the urban areas in India whereas in the rural areas saving behaviour is more in accordance with the absolute income hypothesis. He has found that marginal propensity to save is an increasing function of income at lower levels of development.

Brown (1971)\textsuperscript{31} in his detailed investigations of the impact of interest rate on saving with reference to Korean Monetary reforms has found that average private saving rates showed very high degree of correlation with interest rates and interest rate changes explained 92 per cent of the variations in average private saving.

Based on Indian data, Raj (1962)\textsuperscript{32} and Chakravarthy (1974)\textsuperscript{33} found that the propensity to save in the agricultural sector is lower than that in the non-agricultural sector. The shifts in the sectoral terms of trade influence the incomes in these two sectors and consequently saving behaviour in the two


\textsuperscript{31} Brown, G. (1971) "The Impact of Korea's 1965 Interest Rate Reform on Saving, Investment and Balance of Payments" A paper printed at the CENTO symposium on Central Banking Monetary Policy and Economic Development, Izmir, Turkey, April.


sectors. Given relative prices, faster rate of growth of agricultural output in relation to the aggregate output of the economy would imply a decline in the saving rate.

Thirwall (1974)\textsuperscript{34} using cross section data tests the hypothesis that saving ratio is positively related to the rate of domestic inflation as long as inflation is valid but negatively related if inflation is excessive. He also distinguishes the inflation hypothesis from other traditional hypotheses. He infers that the relation between inflation and the proportion of income that countries save is very weak, the reason being either the quick adjustment of countries to inflation or because of different reactions of countries to inflation. He also found a clear relation between inflation and investment ratio than between inflation and saving ratio and concluded that the relation between saving and rate of growth of income does not appear to arise from a simultaneous dependence on the rate of inflation.

Repetto and Shah (1975)\textsuperscript{35} studied the demographic and other influences on long term saving behaviour in India. The data for the study was collected from surveys conducted in the Kaira district of Maharashtra in 1930 and 1965. They found that large family size has a depressing effect on long term household saving rate. They also found that sons in rural India serve as substitute assets in households and fulfill some of the demand for wealth and that the long term saving rate responds positively to a higher rate of return on saving and positively to higher levels of permanent income.

\textsuperscript{35} Repetto, Robert and Vimal Shah (1975) Demographic and Other Influences on Long-term Saving Behaviour in Rural Development Block in India, Ahmedabad.
Mikesell and Zinser (1973)\(^{36}\), while developing a linear saving equation for 18 Latin American countries found that marginal propensity to save in seventeen of those countries were positive and ignoring the negative result for one country, the range was between 3.5 and 30 per cent.

Laumas and Laumas (1976)\(^{37}\) using Friedman technique for calculating the permanent value of a variable and the annual data from 1919-1960 tested the permanent income hypothesis in India. They found that even the looser versions of the permanent income hypothesis did not hold in the Indian conditions during the period under study. According to them, marginal propensity to save out of transitory income is almost as high as marginal propensity to save out of permanent income.

Bhalla (1978)\(^{38}\) has investigated the effect of sources of income and investment opportunities on the saving behaviour of farm households in India. He has used the survey data collected by the National Council of Applied Economic research (NCAER) during the three years starting from the year 1968-69 and found that the propensity to save out of non-agricultural income was higher than the propensity to save out of agricultural income. The Permanent Income Hypothesis (PIH) offers an explanation for this difference in propensity. He has also found that investment opportunities increased saving, ceteris paribus, for the subsistence group of households and had a negative effect for the non-subsistence group.

\(^{36}\) Mikesell, R.F. and J.E. Zinser (1975) "Nature of Saving Function in Developing Countries", Journal of Economic Literature, Vol.II.


Lakadawala and Modi (1979)\(^{39}\) studied the role of financial assets and instruments in the mobilisation of saving, using time series data from 1951-52 to 1971-72. They found that financial assets play an important role in the mobilisation of saving. They also felt that saving in financial assets can grow at a high rate only with relative price stability and appropriate monetary returns.

Majumdar et. al (1980)\(^{40}\) in their analysis of the high saving phase of the Indian economy found that inflation has increased the saving rate by making income distribution more unequal in India. They also found that the institutional infrastructure involving increased geographical and functional coverage through rapid branch expansion of commercial banks and establishment of regional rural banks has provided the base for high mobilisation of saving. According to them, the phenomenal increase in inward remittances from Indian nationals abroad and the procurement and holding of stock of food grains with the public sector injecting currency supply in the hands of the public have been other factors leading to spectacular rise in saving rates in the latter half of seventies.

Raj (1979)\(^{41}\) has found that the large accumulation of food stocks with the public agencies since the late seventies has led to higher saving in the


\(^{41}\) Raj, K.N. (1979) "Prospective Changes", Seminar, No.24.
household sector as there is a transfer of inventory investment from the farm households to public sector.

Rajkrishna and Ray Choudhari (1982) making use of rural/urban consumption saving data derived from aggregate time series point to the propensity differentials of rural and urban households.

Krishnamurthy and Saibaba (1982) in their study to examine the hypotheses that marginal propensity to save is lower in the agricultural sector, variations in the saving rate is due to lags in response to consumption of changes in income, and the rise in the saving rate, due to a general drift in income distribution over time in favour of the upper income groups, have used the time series data. The main findings of the study were that the marginal propensity to save of the agricultural sector is substantially lower than that of the non-agricultural sector and thus shifts in terms of trade in favour of agricultural sector tend to lower the saving rate. The propensity to save in financial assets is significantly higher for the non-agricultural households, whereas no significant difference was found with regard to physical assets; and growth of per capita real income has positive impact on the household saving rate which supports the hypothesis of lags in the response of consumption to changes in income with regard to the household sector.

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43 Krishnamurthy, K and P. Saibaba (1982) Saving Behaviour in India, New Delhi, Hindusthan Publishing Corporation (India).
The aggregate consumption/saving studies by Pandit (1973), Krishnamurthy and Saibaba (1981), and Mody (1983) for household saving have also given evidences for the higher saving ratio in non-agricultural households than in the agricultural households.

Pandit (1985) has analysed the saving behaviour and choice of assets in the Indian context using cross section and time series data. He has examined the magnitudes of saving propensities over time and over income classes, sensitiveness of these propensities to variations in the level of income, the impact of rural urban income distribution on household saving and the impact of inflation on the households' decision to save. His study has come out with the conclusion that marginal propensity to save varies with the level of income both over time and over income classes, the MPS is higher for the urban than for the rural households, and that the expected inflation has a small but negative effect on household saving.

Rao (1980), analysing the household saving behaviour in India using time series data for 1950-1980 has found that in addition to a saving income lag, the redistribution of money income in favour of the savers as against non-savers has led to an increase in saving in the household sector, which he considers is the reason for the secular rise in household saving along with the

existence of a large proportion of population below the poverty line. He has also found that the share of the rural areas in the saving has fallen during 1970s compared to the urban areas.

Thomas Paul (1986)\(^49\) has studied the saving behaviour in the Indian economy. He has made use of time series data for the period 1950-51 to 1981-82. His main findings are that the net household sector’s marginal propensity to save in the form of all assets is 20 per cent of current real national income, the ratio of agricultural income to industrial income has a negative coefficient sign with respect to the total domestic saving in the economy and unexpected inflation and variability of inflation are found to be positively related to the saving rates.

Giovannini (1985)\(^50\) in his empirical study on the question of whether saving responds positively to changes in the real rate of interest in less developed countries has examined the effect of real interest rates on consumption growth in eighteen developing countries. It was found that only in five out of eighteen countries the expected path of consumption changed with changes in real interest rates. Another finding of this study was that in majority of the countries examined, the age-consumption profile does not change with changes in the real rate of interest and therefore, the interest elasticity of saving is negative in the steady state.


Lahiri (1989) has conducted a study to examine the determinants of saving. He based his empirical studies on time series analysis for individual countries. He found that the rate of growth of personal disposable income is a significant determinant of private saving in all the countries in his sample of Asian countries. He inferred the age dependency ratio, as a significant determinant of private saving. He found that a one percentage point increase in the dependency ratio reduces the long run average propensity to save (APS) by 1.6 percentage points.

Panikar (1992) has studied the rural household saving and investment pattern in selected villages in Kerala and Tamil Nadu. The study was conducted with the objectives of looking into the levels of saving and the manner of its disposition and the in-depth analysis of factors underlying the rates of saving. From the study it was found that a high proportion of saving was absorbed in unproductive assets leading to a vicious circle of low income and low saving.

Schmidt Hebbel, Webb and Corsetti (1992) conducted a study to test the household's responses to income and growth, rates of return, monetary wealth, foreign saving and demographic variables in the form of saving. They used panel data from U.N. System of National Accounts for ten developing countries. The findings of the study are (a) households save a larger share of

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51 Lahiri, Ashok (1989) *Dynamics of Asian Saving: The Role of Growth and Age Structure* IMF Staff Papers 36
their income when that income is higher and when it is growing faster; (b) they save less when greater is their monetary wealth (c) real interest rates do not encourage saving in the countries investigated. (d) The effect of inflation on saving is negative. (e) Foreign capital inflow tends to reduce household saving in the short run.

Elbadawi and Mwega (2000)\(^{54}\) in their study on the determinants of private saving in Sub-Saharan Africa have sought to explain the regions dismal performance in saving compared to the high performing Asian economies. They used data for the period 1970-75 and found that private saving in Africa lags behind that in other regions because of the region’s low per capita income, high young age dependency ratio and high dependence on aid.

Loayza and Shankar (2000)\(^{55}\) studied the determinants of private saving in India during 1960-95. Their results show that private saving rates rises with the share of agriculture in GDP and the real interest rate is positively associated with private saving rates. However, the positive effect of income on private saving rates found in other studies does not coincide with these studies.

Thus, many studies have already been undertaken in the developing countries to examine the determinants of saving behaviour. In India also researchers have conducted studies on various dimensions of saving and saving behaviour. The positive association between income and saving,


especially, some form of permanent income and saving has been supported by many of these studies. Wealth tends to affect saving negatively, which points to the fact of target saving. The effect of interest rate and price level on saving are different in different studies. Demographic factors, especially sex and age structure of households have significant influence on household saving. Other important determinants of saving as derived from the above studies are distribution of income, agricultural, non-agricultural distinctions and urban-rural distinctions.

1.4 Statement of the Problem

Aggregate saving in any economy, is dependent on a number of interdependent variables. For economic planning the planners should have an idea regarding the volume of saving of different groups of people and the method by which saving can be improved. To frame appeals for saving there is the need to know about the saving motives. An understanding of the saving preferences will also help in designing saving instruments which effectively stimulate saving. As was observed by Mody (1983)\(^6\), "given the present weight of the household sector in total saving, to step up the saving in the economy would require a stepping up of the saving rate in the household sector. Thus, there is the need to carefully understand the determinants of both the household saving rate and the saving pattern".

In the Indian economy household saving is of critical importance in the physical asset formation. The households undertake a good portion of the physical investments directly and they also make public and private corporate

investments possible by transfer of saving. The household saving behaviour determines whether the investment targets are achieved or not. Hence, the volume of saving of the household sector and the form in which it is held is of importance, as the consumption reflects the efficiency of investment of saving. The share of the household sector has increased from 73.7 per cent of the Gross Domestic Saving (GDS) in 1950-51 to as much as 88.8 per cent of the GDS in 1999-2000. Again, the share of physical saving of the household sector has declined from 87.19 per cent of the total household saving in 1950-51 to 43.0 per cent in 1999-2000, which means that the contribution of this sector for investment in the private corporate sector and the public sector has increased.

The rural sector is of utmost importance to the Indian economy not only because of the income generated and the employment potential of this sector but also because of the limits set by this sector to the growth of other sectors. The take off of the rural economy hinges on the mobilisation of saving and their transfer into the hands of the more entreprising investors. Because of the assumptions that the rural households are too poor to save and even if they get some additional income through some windfall they spend it on consumption or ceremonies the policy makers have ignored the rural savings. However, substantial saving potential exists in the rural sector in India. A picture of the physical saving of the rural sector is available from the decennial debt and investment survey of the Reserve Bank of India.
Table 1.1

Rural Gross Capital Expenditure in India

Average Value (Rs.) spent by Rural Households on different items

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential plots, Buildings and other construction</th>
<th>Farm Business</th>
<th>Non-farm Business</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961-62</td>
<td>40.73</td>
<td>106.38</td>
<td>6.57</td>
<td>153.82</td>
</tr>
<tr>
<td>1971-72</td>
<td>65.36</td>
<td>156.86</td>
<td>15.30</td>
<td>237.52</td>
</tr>
<tr>
<td>1981-82</td>
<td>284.0</td>
<td>346.0</td>
<td>55.0</td>
<td>685.0</td>
</tr>
<tr>
<td>1991-92</td>
<td>849.0</td>
<td>731.0</td>
<td>119.0</td>
<td>1700.0</td>
</tr>
</tbody>
</table>


From an average amount of Rs.153.68 per household in 1961-62 the average gross capital expenditures in the rural sector in India has increased to Rs.1700.00 in 1991-92. Taking the number of households residing in the rural sector in India, the volume of gross investment in capital assets by the rural household sector in India is enormous. However, the share of residential plots, and buildings has increased from 26.48 per cent in 1961-62 to 44.94 per cent in 1991-92, whereas the share of investment in farm business has decreased from 69.28 per cent in 1961-62 to 43 per cent in 1991-92.

From the period 1951-52 to 1958-59 the rural households have supplied an average of 37.42 per cent of the total household saving in the country. The rural households have made sizeable net saving of Rs.479.38 crores as was found in the All India Rural Household Survey conducted by the NCAER in.
1965. The rural household surveys conducted by NCAER have found that the rate of investment in agriculture has increased from 4.4 per cent in 1962 to 5.8 per cent in 1970-71 and further to 5.9 per cent in 1978. Total physical investment in the rural sector has increased from 9.44 per cent in 1971-72 to 13.03 per cent in 1981-82. The saving rate during the period in the rural sector has increased from 3.60 per cent to 10.26 per cent.

In Kerala, in spite of lower per capita income compared to other states, the rate of saving is very high. This is reflected in the total deposits mobilised by the commercial banks, co-operative banks and regional rural banks. The annual growth rate of total deposits mobilised in this state is 18.69 per cent. At current prices total deposits mobilised has increased from Rs.3433.79 crores in 1986 to Rs.55710 crores in 2001. However, a particularity of the deposits mobilised by the banking sector in Kerala is that the share of NRE deposits increased to as much as 45.90 per cent in 1998 even though it has declined in 1999 to 42.27 per cent and further to 38.47 per cent in 2001. The advances made by the banks for investment has been steadily declining in Kerala and consequently the credit deposit ratio has come down from 61.2 per cent in 1986 to 42.73 per cent in 2002.

A study conducted by the Kerala State Planning Board (1981) has shown that the household saving in Kerala amounted to 18 per cent of the net domestic product of the state during 1977-78 whereas the corresponding ratio for the Indian economy is merely 14 per cent during the same period, which

points to the fact that the state has achieved high saving rate despite its low per capita income. The average annual saving per household was found to be Rs.1032.00 and average annual saving for rural households was found to be Rs.965.00 per household as against Rs.1369.00 per urban household.

Mody (1983)\textsuperscript{59} in his study based on All India Debt and Investment Survey found that saving rates in Kerala was as high as 15 per cent as against 2 per cent in Maharashtra. He has also found that because Kerala had a long history of commercialisation and development of financial institutions, the per capita financial investment in Kerala had been very high. The All India Debt and Investment Survey in different years has found that the average gross capital expenditure by rural households in Kerala has increased from Rs.171 in 1961-62 to Rs.3947 in 1991-92 as against the all India figures of Rs.154 and Rs.1700 for the two years respectively. Disaggregating the gross capital expenditure in the rural areas into residential plots and buildings, farm business, and non-farm business it is found that the share of residential plots and buildings in Kerala has been very high compared to the all India average. The share of this head in gross capital expenditure was as high as 40.09 per cent in Kerala as against 26.48 per cent at the all India level. In Kerala this share has increased to 68.56 per cent in 1991-92 whereas at the all India level it has increased to only 49.94 per cent in 1991-92. Investment in farm business has declined from 69.28 percent in 1961-62 to 43 per cent in 1991-92 at the all India level whereas in Kerala there is a tremendous decline from 45.61 per cent in 1961-62 to 14.5 per cent in 1991-92. The share of investment in non-farm business at the all India level has increased only

\textsuperscript{59} Mody, Asoka (1983) Op cit.,p.799
marginally from 4.27 per cent in 1960-61 to 7.0 per cent in 1991-92. But the increase in investment in non-farm business in the rural sector in Kerala has been commendable, that is, from 8.9 per cent to 16.9 per cent during the same period. Thus, investment of saving in physical assets is of particular nature in the rural areas in Kerala. The investment in financial assets has been on the increase in the rural areas of Kerala which is depicted by the deposits mobilised by the primary agricultural credit societies in Kerala. From Rs.322.37 crores in 1985-86 these deposits increased to Rs.3015.94 crores in 1998-99 and further to Rs.5341.81 crores in 2000-2001.

The indicators of physical quality of life in Kerala are very high which had attracted worldwide attention. In terms of said indicators, the development of Kerala is comparable to the top among the Asian countries. But in terms of per capita income, Kerala stands below the all India average. Different hypotheses are put forward by the academicians and scholars for this state of affairs. Most important among these hypotheses include the lower rate of investment in the industrial and agricultural sectors of the state. These facts indicate to the peculiar nature of saving and investment prevalent in Kerala. As mentioned earlier, the rural sector in Kerala accounts for a major portion of saving in the state. But this voluminous saving generated is drained out as the rate of investment especially in the productive sectors is not up to the expectation.

Thus, the present study was undertaken with the following objectives.
1.5 Objectives

1) To examine the sources of income and consumption pattern of rural households in Kerala.

2) To identify the determinants of saving of the rural households.

3) To examine the pattern of investment of the rural households.

4) To identify the managerial and operational constraints that restrict saving and investment.

1.6 Hypotheses

(1) The major source of income of the agricultural households is agricultural income.

(2) Proportion of income spent on food is higher for the saving households in the higher income groups.

(3) Saving tends to rise as inequalities of income increases.

(4) The major determinants of saving are dependency ratio, number of male children, education, number of earners, income, age, occupation and prospects of children.

(5) Determinants of saving differs from region to region

(6) There is a shift away from the farm related assets to the non-farm assets.
As income increases households prefer more of financial assets than physical assets.

1.7 Scope of the Study

Discussion on macro-economic indicators is a very complex issue. The treatment of saving and related variables are further complex because of the host of variables influencing saving. The determinants of saving in an urban environment need not be relevant in a rural environment. Considering all these issues, the primary focus of this study is to identify the determinants of saving. However, if the study is limited to determinants of saving alone, it will be too narrow in its scope. The income and expenditure pattern, and sources of income of the rural households have a bearing on the saving and investment pattern. In the same way, disposal of saving by the rural households, which, in turn, depends on occupation, level of income and level of education needs a detailed analysis along with the determinants of saving. Also, the problems faced by the rural households are different from that of the urban households. Hence the scope of the present study is widened to cover expenditure and investment pattern also.

1.8 Methodology

The study made use of both primary data and secondary data. Secondary data were collected from the publications of Reserve Bank of India, Central Statistical Organisation, Central and State Governments, Planning Commission, State Planning Board and other published materials of official agencies.
Primary data were collected from 300 households belonging to three villages. For the selection of the sample, a two stage stratified sampling design was adopted. The first stage units were villages while the second stage units were households. For the selection of the villages, at first the state was divided into three zones on the basis of geographical concentration namely, northern, central and southern. From each zone one district was selected keeping in view of the various features which might directly or indirectly influence the level of saving such as the cropping pattern, irrigation facilities, employment and occupations, credit institutions and infrastructural facilities. Accordingly, Kannur district from the northern zone, Thrissur district from the central zone and Alappuzha district from the southern zone were selected. Kannur district has more of commercial crops such as rubber, cashew, pepper and coconut whereas Alappuzha district has more of paddy cultivation. Thrissur district has equal importance for paddy and coconut cultivation. In consultation with the district and taluk officials, Iritty block from Kannur district, Cherpu block from Thrissur district and Veleyanad block from Alappuzha district were selected. From each of these blocks one village panchayat each was selected where the main consideration was the above mentioned features of the district. Accordingly Payam panchayat from Kannur district, Paralam panchayat from Thrissur district and Ramankari panchayat from Alappuzha district were selected.

a) Sample Households

Since the objective of the study is to analyse the determinants of saving and the investment pattern of the rural households and not to estimate the
saving at the regional or state level, one hundred households each were selected from each of the three villages. The income level, consumption expenditure pattern, saving and investment pattern and the constraints faced in investment are likely to differ according to the occupation patterns. Hence, adequate representation for the different occupational groups was given. In determining the occupation of the households, the occupation of the head of the household was considered. Thus, different occupation groups occupy different percentage of households in different villages. Taking the sample as a whole there are 33.33 per cent of cultivators, 20.67 per cent of agricultural labourers, 15.67 per cent of non-agricultural labourers, 11.67 per cent of self employed in non-farm sector and 2.33 per cent of overseas employed.

b) The schedule of enquiry

Since the information sought to be elicited is on income and financial matters, the households were reluctant to part with the information. Hence, a large number of questions had to be included in the schedule to be canvassed. Accordingly, five schedules were prepared. Schedule I dealt with the socio-economic characteristics of the households wherein data on different type of assets held by the households were also elicited. Schedule II included questions on income of the households from different sources and by all the earning members of the households. In schedule III, data were collected on different items of consumption expenditures for the members of the household separately. Schedule IV dealt with financial and physical investment of the households whereas schedule V dealt with data on indebtedness of the households.
As it was presumed that the households would be reluctant to disclose matters related to income and saving to the strangers, the researcher took with him some of the well accepted and educated local people in each of the villages where the schedules were canvassed. The household survey was conducted during the period from 1\textsuperscript{st} January 2001 to 30\textsuperscript{th} June 2001, the reference period being the previous calendar year. Every effort was made to minimize the response errors and eliminate inaccuracies and inconsistencies. In spite of all these precautions the chances of under reporting of assets especially financial assets and income and over reporting of consumption expenditure are not overruled.

c) Working definition of concepts

Saving

There are two concepts of saving, namely a flow concept and a stock concept. Understood as a flow concept saving is the earned surplus, that is, current income minus expenditure. As a stock concept, saving is the change in net worth. However, the terms ‘saving’ and ‘savings’ are rather confusing. No criteria to distinguish between these two terms were noticed by the present researcher. Going through the literature on the subject, it was found that some researchers use both the terms interchangeably. Leff (1969),

\begin{thebibliography}{99}
  \bibitem{giovanni} Giovanni, Alberto (1985), op. cit., pp.197-217
\end{thebibliography}
and Bose (1997)\textsuperscript{65} are the scholars to quote a few. Many studies use the term ‘saving’ alone throughout the analysis. National Council of Applied Economic Research (NCEAR), (1962)\textsuperscript{66} Boskin, Michael J. (1978)\textsuperscript{67}, Deaton (1989)\textsuperscript{68}, Schmidt-Hebbel, et al (1996)\textsuperscript{69}, Kraay (2000)\textsuperscript{70} and Rodrik (2000)\textsuperscript{71} have used only the term ‘saving’ in their studies. In the present study, the term saving is used from the beginning to the end. The title of the thesis also includes the term ‘saving’.

**Households**

In the present study, a household is defined in terms of the definition given by the Department of Economics and Statistics (1985)\textsuperscript{72} as a group of persons normally living together and taking food from a common kitchen. The members of the household may or may not be related by blood to one another.

**Head of the Household**

The person, male or female, who takes all major decisions related to the household activities, is considered as the head of the household.


\textsuperscript{66} NCAER (1962), “All India Rural Household Survey”, New Delhi.

\textsuperscript{67} Boskin, Michael, J. (“Taxation, Saving and Rate of Interest” Journal of Political Economy, No.1

\textsuperscript{68} Deaton, Angus (1989), op cit., pp. S3-S27


\textsuperscript{70} Kraay, Aart (2000) op cit., pp.545-570.


Household Income

Household income is defined in the sense of earnings of all members of the household from all sources during the reference period. Various sources include farming, self-employment in non-farming, salary, agricultural wages, non-agricultural wages, remittances from members employed outstation and others.

Household Investment

Acquisition of all income-generating assets, physical and financial, are considered under household investment.

Occupation of the Household

The present study considered the occupation of the household on the basis of the main occupation of the head of the household. Extent of land possessed is not a criterion to classify a household as cultivator or non-cultivator household.

Assets of the Households

Assets are defined to include all items owned by the household which have money value. The value of each asset is estimated after considering the costs and depreciation on the basis of years after construction or purchases. Capital gains and capital losses of each of the asset has also been considered in the estimation of value.
Liability

All claims against the household held by others were included under liabilities, e.g. cash loans from financial institutions, money lenders and others, chit funds auctioned and prized, refundable loans from provident fund and LIC policy.

Earners

Household members who worked in a farm or non-farm enterprise or those who worked in others’ farms or non-farm enterprises and in government for wage or salaries were all considered as earners.

d) Tools of Analysis

The primary analytical structure of this thesis is based on bi-variate tables. In the bi-variate tables chi square test was used wherever applicable. In order to determine the factors influencing saving, the primary focus of the study, both the tabular presentations and multiple regression were also used. Inter-village variations were examined with the help of ANOVA. Rather than precision of the technique or accuracy of the value, the observed associations and causality were the powerful rationale behind the inferences.

Limitations of the Study

(1) In calculating the household saving, using the income account method, household income and household consumption expenditure had to be estimated. In the rural areas income of the household comes from different sources like cultivation, non-farm business, wages and
salaries, rent and interest and professions. Households do not keep account of income from these different sources and also they fail to keep account of the value of owned resources used in production. In the rural households the value of goods produced at home and consumed internally, namely vegetables, fruits, coconut etc. are not included either as income or as expenditures. Again, eliciting accurate information on income received from family members working outside the state has been difficult.

(2) Consumption expenditures on essential items of consumption are overstated whereas expenditure on unnecessary consumption such as pan and intoxicants are understated in the survey.

(3) One methodological issue related to the estimation of saving through income account method pertained to the inclusion of expenditures on consumer durables as saving or expenditures. There are differences of opinion among the scholars on this issue. The present study consider expenditures on consumer durables as part of consumption expenditures.

(4) Saving estimated through the two methods do not tally in the study. Saving estimated through balance sheet method, that is, as change in net worth is greater than saving estimated through income account method. This inconsistency has occurred either because of underreporting of income or over-reporting of consumption expenditures or both.
(5) In the estimation of depreciation and capital gains and losses, there have been inconsistencies due to the particular nature of the rural set up.

(6) While preparing the details relating to income, expenditure, saving, etc one of the debatable issues is the choice between current prices and constant prices. Conversion into constant prices will make the things more realistic and reliable. But one of the major constraints to make such conversions is the non-availability of an appropriate deflator. Because of these limitations in the present study, the measurements are made in current prices alone. Even though this is a limitation, there are ample studies which followed this approach.

(7) In the rural areas farm related income is quite unstable and hence to achieve the desired level of saving a long period of time is required. The researcher acknowledges this limitation of investigating the long-run determinants of saving behaviour through the single period cross section survey in this study.

(8) In the estimations of value of land, there were certain difficulties. Whereas those who possess the land overstate the value of the land, those who intend to buy understate the prices. The records on the value of transactions kept in the registration officers were also not dependable due to under-valuation to save the stamp duty. The present study has arrived at the average value of land on the basis of data collected from the buyers, that is, on the value of actual transactions. This is likely to have some upward bias.
(9) The reference period in the study was the previous calendar year. Hence, the possibilities of inaccurate information due to memory lapse of the respondents is not over ruled.

Scheme of the Study

The thesis is presented in seven chapters. The first chapter covers the design of the study. The second chapter analyses the profile of income, saving and investment behaviour in the post independent India. In the third chapter, the income and consumption expenditures of the rural households are examined. The fourth chapter examines the determinants of saving behaviour of rural households. The pattern of investment of the rural households is explained in the fifth chapter. In the sixth chapter, the marginal and operational constraints restricting investment are examined. The seventh chapter presents the summary of findings.