CHAPTER II

REVIEW OF LITERATURE AND CONCEPTUAL FRAMEWORK

This section attempts to review the empirical findings of relevant studies which were analysed from different angles, related to the areas of income, savings and investment patterns of rural and urban households. The reviews cover the distribution of income in different income-size group of households, causes for the changes in farm and non-farm income and their relative share in their family income, factors influencing consumption behaviour and the income elasticity of consumption, pattern on financial savings and savings in the form of physical assets, variation of investment pattern in between rural and urban households and the influence of socio-economic and demographic factors on savings and investment.

K.P.C. Rao. in his study examined the growth of agricultural income in different districts of Andhra Pradesh using secondary data and also attempted to identify the sources or determinants of growth in agricultural income inequality in agricultural income between regions and districts. The major and minor products of agriculture and livestock were evaluated at the average wholesale prices during the peak market periods. He pointed out that the percentage of irrigated area influenced agricultural income positively while the percentage area under food crops affected it negatively.

Nandal, 2 in his study on the pattern of income, expenditure and savings of selected demonstration farm in Haryana, finds negative savings-income ratio due to low income and high consumption expenditure.

Joginder Singh 3 observed that gross farm income is directly depended upon farm size and average productivity. He contended that farmers of all scales were able to adopt input such as seed, fertilizer and other forms of divisible technology more or less at the same rate. However mechanisation could increase the farm income for different groups of farms disproportionately. Within large size group of farmers, mechanisation upto a certain level caused more equality while beyond that it created a more unequal distribution.

M.G. Ghosh 4 in his paper examined the extent to which the new technology along with irrigation has been effective in increasing income and human labour employment. The study was confined to one village in the district of Burdwar in West Bengal. The study reveals that the introduction of irrigation in the summer season followed by the adoption of high yielding seeds of rice has been instrumental in enhancing income and employment opportunities for the rural labour force.

V.T. Raju and I.J. Singh's studies compared the distribution of farm income by using various measures of income inequality in the IADP district West Godavari for the years 1967-68 and 1970-71. In order to arrive at an ordinal ranking of distributions the Lorenz Curve technique is used. The increasing mean level of farm income associated with the declining farm income inequality in the district over the period 1967-68 and 1970-71 represent a step towards the achievement of a higher level of economic well being of the farmers. It is observed that income inequality has been increasing since the introduction of new technology in Indian Agriculture.

N.L. Agarwal and R.K. Kamawat studied the objective, potentialities of increasing farm income through provision of credit, the possibilities of increasing farm income on different size of farms through new technology and the effect of credit technology package on the income of the different sized farms of the seven districts of the semi-arid regions of Rajasthan. The authors hold that the adoption of improved technology with adequate credit facilities increased the incomes of all sizes of farms significantly.

The analysis of Ram Iqbal Singh et al. revealed that on an average, crop production constituted 79.09 per cent of the total farm family income followed by income from wages and salaries (9.23 per cent), income from milk.

production and sale of livestock (5.12 per cent), income from hiring out implements and machinery, etc. (3.14 per cent) and income from land leased out (1.58 per cent). The study also enlightens that the surplus for investment increases with the increase in the size of holdings but the plough back in agriculture decreases with the increase in the size of holdings.

Katar Singh finds that the estimates of income inequality indexes indicate an overall decline in the farm income inequality in the district in the period 1963-64 and 1968-69. The results of the regressions fitted, show that the new agricultural technology has been significantly influential in explaining the block to block and year to year differences in the farm income inequality and that the mean level of farm income is negatively correlated with the farm income inequality in the district.

S.S. Miglani et al. say that there is a wide gap between different size group farms with respect to farm business income. It varied from Rs. 4,241.98 on farms below 5 hectares to Rs. 37,949.00 in the case of the largest size group farms in 1969-70. They also examined the income inequality within each farm size group. In the case of farm size group 15-20 hectares the income disparity is the least and it is the maximum in the case of farm size group of 20 hectares and above. The results are supported by working out quartiles 'Gini ratios and

the Co-efficient of variation”.

The study of A.K. Ray et al. seeks to examine the spatial and temporal disparities in agriculture in India. The authors take up this issue in the context of the recent technological breakthrough in agriculture with its differential impact on crops and regions. The study covers all the major crops and most of the states of India. The study reveals that the spread of new technology in agriculture has accelerated disparities in income distributions between the states. The gap in income has widened mainly because of the nature of cropping patterns in different states.

Mohinder Paul in his study of a quantitative estimation of the magnitude of income inequalities with the help of empirical evidence collected from one of the highly developed agricultural states viz. Haryana reveals that in rural Haryana agriculture contributes half the total household income. The annual income of 49 per cent of the households as a whole is less than Rs.7,500/- as their annual income and their share in the total income is only 18 per cent. 94 per cent of the labour household have less than Rs.7,500/- as their annual income and even in the case of remaining households none has been found to be having more than Rs. 15000 as their annual income. There are wide economic disparities in rural Haryana. The bottom of 20 per cent share only 5.44 per cent of the total income and the top 20 per cent share as much as 46.72

per cent. This state of income inequality is more pronounced among the farm households than the non-farm households.

Uma Datta Roy Choudhury 12 after examining the results of the studies about the pattern of distribution of income, consumption and household assets in rural areas over the last decade, arrives at a general conclusion that the asset holdings are much more unequally distributed. However, the results point to not only the extreme skews of the distribution but also their static nature in terms of the share of the different groups of the population. Thus, for the poorest and richest of 10 per cent of the population there is hardly any change in the share. But for the next two groups of 20 per cent of the households at the top and bottom, share has apparently declined marginally at the lower end and increased at the upper end.

While perusing the theoretical literature on savings, one notices certain prominent directions in which theories have come by. The importance of savings was realised long ago by the classical economists.

In “Classical” models, savings and investment are both made by the same decision-makers, i.e., capitalists, but even in these models the independence of the savings (consumption) and investment decision is maintained by making the savings decision, a function of the division of income between capitalists.

and workers and the investment decision, to depend on other factors such as the capitalists desire to accumulate. In the extreme case of the classical models where workers only consume, and capitalists only invest the independence of the consumption (savings) decision and the investment decision is the absolute.

The Neo-classist viewed savings as a determinant of investment

\[ i = f(S). \]

Keynesian revolution based on under employment equilibrium, made savings a function of income and income a function of investment

\[ s = f(y), y = f(i). \]

Keynesian savings function is linear with a constant marginal propensity to save (MPS). Absolute income hypothesis posits that saving is a stable, linear function of current income. The average propensity to save is particularly erratic in developing countries.

Keynesian "Absolute Income" hypothesis implies higher rates of savings of higher levels of income. The household budget studies have shown that the saving-income ratio has risen substantially with income levels but long term macro level studies showed a near constancy of the ratio.

---


The “relative income” hypothesis\textsuperscript{15} specified that saving rate depends not only on the level of income but on the relative position of the individual on the income scale and the saving rate is dependent on the ratio of current income to the peak level income previously reached.

Friedman’s permanent income hypothesis is frequently used to explain aberrations in the relation between savings and absolute income. Friderman\textsuperscript{4} attempted to explain savings in terms of the “permanent” and “transitory” components of income. In fact, according to him the MPS of transitory incomes is expected to be close to unity.

The life cycle hypothesis developed by Modigliani (with Brumberg and Ando) is based on the motive for savings. The “Life cycle” hypothesis postulates that individuals attempt to spread their life time consumption evenly over their life period by accumulating enough savings during the earning year.\textsuperscript{16}

Thus, there are different motives for households to save, possibility of varying in intensity under different circumstances and between classes of households, that should weigh legitimately as a serious concern of policy makers.


Pandey et al. studied the pattern of income, savings and investment in agriculture in eastern UP and observed the existence of dis-savings among small farmers and hence no investment is to be seen among them.

Kahlon et al. obtained marginal propensity to save by fitting the Cobb-Douglas function to income saving data for the year from 1966-67 to 1970-71 and marginal propensity to save is 14.24 per cent in 1966-67 and it rises to 23.06 per cent in 1970-71.

Bhati estimates the Marginal propensity to save for the tribal and non-tribal farmers separately by using a single equation $S = a + bY$ where $S$ is savings and $Y$ is disposable income and marginal propensity to save for tribal is 0.27 and for non-tribal it is 0.39.

S.P. Gothsoskar and T.R. Venkatachalam have analysed the estimates of RBI regarding financial savings of household and Central Statistical Organisation’s estimates of capital formation. In their analysis with respect to the personal disposable income, the ratio of gross financial savings of household has increased from 3.94 per cent in 1960-61 to 6.52 per cent in 1975-76. On the other hand, the ratio of liabilities has gone up from 1.03 per cent to 1.61 per cent during the same period. On the investment side, whereas the ratio of net physical capital formation to personal disposable income went

up from 3.50 per cent to 6.45 per cent, that of consumer durables increased from 2.04 per cent to 3.77 per cent. The financial savings of households which constituted about 63 per cent in the total savings in 1960-61 increased its share to a little more than 69 per cent in 1975-76, while the share of liquid financial assets declined from about 29 per cent in 1960-61 to 26 per cent in 1975-76. In his study he also found that investment in household durable goods has increased at a much faster rate as compared with the net physical capital formation of households.

Dr. K.S. Sharma 21 examines the trend of savings in rural areas as compared with its urban counterpart and discusses the policy measures to activise their mobilisation in productive channels. According to him savings in rural areas may prefer a financial asset that is simple, convenient and easily intelligible and that which can be easily converted into money without any loss.

Navin Chandra Joshi 22 in his article of 'Savings in Indian Economy' concludes that what Raul Prebisch found and recommended in the case of Latin American countries holds good for all developing countries including India, and observed that, "The upper five percent of the population consumes 30 percent spent per average family, 15 times more than the average family group in the lowest 50 per cent of the population. If this were reduced to nine times, the rate of growth in per capital income would rise from one percent to

---

four per cent”. This observation is suggestive of a policy by which a major quantum of savings should come from the richer classes of the society. We have, therefore, to launch a major campaign to siphon off extra income of people in both rural and urban sectors. The savings movement need to be transformed into a genuine people’s movement for boosting the national economy.

Paul Davoson 23 observes that in general the income level of the villagers has been increasing and consequently the savings potential also has increased. Now there has been considerable mobilisation of savings in villages. But considering the level of savings in villages, the investment level is comparatively low. We find savings drain from rural centres to urban centres. There is flight of capital from villages to cities and industrial centres through the existing financial institutions. These institutions help mobilisation of savings in villages. But they transfer their surplus fund to their branches in urban areas for profitable investment where there is much demand for their capital. The real tragedy is that the villagers save more but their savings are not used for the development of their regions. The pity is that the poor villagers sacrifice for the sake of the affluent urban society.

Pandit’s 24 study on ‘the growth and structure of savings in India’ establishes a relationship between the saving and the factor affecting the

savings of the household, private corporate sector and government sector. The findings reveal that the main factors affecting the saving rate in India are growth in income, sectoral and functional distribution of income and growth of financial institutions.

G.Raju 25 in his study "On household sectors savings in India", points out that amount the domestic sector, private corporate sector and government sector, during the year 1988-89, the gross household sector savings accounted about 81 per cent of the gross domestic savings, while the share of private sector and public sector was only 9.7 per cent and 9.3 per cent respectively. Further the household sector savings in the form of financial assets, has increased from 8.6 per cent in the year 1950-51 to about 42.5 per cent in the year 1988-89, while the share of household sector savings in the form of physical assets has decreased from 91.4 per cent in the year 1950-51 to about 57.5 per cent in the year 1988-89.

Angus Deaton 26 summarized that in the literature on economic development much of the interest in savings has been focussed on the relationship between saving and growth. But savings is not only about accumulation, it is about smoothing consumption in the face of volatile and unpredictable income, and helping to ensure the living standard of poor people whose lives are difficult and uncertain. His paper develops a model of


household which cannot borrow but which accumulates assets as buffer stock to protect them against consumption escalation when income is low. Such household, despite, often as they save, do not accumulate assets over the long term and have on average very small asset holdings. Much of the evidence is consistent with this view, of savings, as it is inconsistent with standard views of smoothing over the life cycle, and with explanations of the link between savings and growth in terms of life cycle saving behaviour.

Galgalikar V.P 27 et al. have studied the pattern of income distribution, savings and expenditure in rural areas (Jabalpur and Parbhani districts) with 67 selected families. It was found that savings to be negative and the families resorted to borrowings to meet consumption expenditure.

P.C.Shukla and B.K.Mishar 28 remark that in the present agricultural situation when technological effect is visible on the farms, the scope for exploiting savings potential relating to a large number of small and medium farms is very limited.

A.J.Singh and Gurpreet Singh 29 conclude that Average Propensity to Save (APS) among the farmers of India as well as Punjab State has increased with

---


the advent of green revolution. In all the cases the Marginal Propensity to Save (MPS) out of transitory income came out to be greater than that of permanent income. They say that any abrupt increase in the income of the people creates opportunities for stepping up the rate of savings.

The study of Prem Vashistha and D.V.Rukmini 30 shows that the i) saving rate for rural and urban households is quite different, it is much higher (more than twice) for the latter than for the former, ii) regional variations between the northern and southern states of India are quite significant, being much more sharp for urban households than for rural households, iii) the saving rate in the form of human capital is of the order of 6% to 7% which is of a significant magnitude, iv) the variations in savings rate of different occupational groups (based on the major sources of income) are quite significant irrespective of the sectoral (rural-urban) and regional (north-south) differences, v) the saving rate of the group whose major source of income is non-farm business is higher than that of other groups. This is true of rural as well as urban households.

Elango and Baskardoss 31 in their studies on “Rural Savings and Rural Finance Markets”, have pointed out eventhough there exists sufficient potentials of savings in rural area, in the absence of a well organised rural financial market, the rural surpluses may be increasingly used for economically and socially unproductive ventures.

Joshi S. Madhusudan 32 considers that the contractual saving is specifically significant for the process of financing the economy. It might therefore be preferable to start contractual saving institutions, which would induce the household sector to increase it by indirect savings. Creation of institutional and professional investors would also help to develop the environment suitable for the growth of stock markets. The priority for indirect personal saving through financial institutions is more evident in developing countries today. Policy makers in developing countries might do well to adopt a more concerted efforts to foster “saver oriented” contractual saving institutions. In general there is evidence as to the fact that contractual savings are made primarily at the cost of consumption, particularly in low income groups. Many families respond to income increases by stepping up their contractual savings.

Rai K.N. and B.R. Singh 33 attempt to establish the relationship between this level of savings and farm income in different zones. They have found that saving in both zones has shown increasing trend with increase in size of holdings, irrigation facilities and the quality of the crops grown. The saving on small sized farms in each zone is negative. The saving on medium and large holding is positive. The negative saving on small farms indicate that the economic condition of these farms should be improved to make these viable units.


Ram Vichar Sinha \(^{34}\) finds that the small farmers can be better helped more directly with cash subsidy as they never get loans at the stipulated concessional rates because of prevalent bribes and corruption in practice for the speedy pace of growth and saving. A drastic simplification and reduction of indirect taxation may also step up the savings in the household sector.

D.K. Ragnaler \(^{35}\) remarks the surplus funds in rural areas. It is not desirable that they should be mobilised for financing the expenditure of the central government as is sought to be done. The importance of thrift cannot be over emphasised. But it is equally important that rural savings must go to increase rural finance and that can be ensured by boosting the co-operative agency.

T.K. Jayaraman \(^{36}\) attempts to find out the determinants of government savings and the residual savings in his study on "Savings behaviour in Gujarat" and concludes that only income is found to be a significant determinant of savings other than government savings. Multiple regression is used as an analytical tool in his study.

A.C. Minocha \(^{37}\) finds that the mobilization of agricultural surpluses is essential to accelerate the pace of economic development. Since taxation of agricultural incomes is considered politically a hazardous task, some economists have been advocating very interesting but equally hazardous

---


methods of mobilizing the surpluses. Another suggestion that has been put forth is that the marketed surpluses can be increased by increasing the cash liabilities of the cultivators, thereby increasing the degree of monetisation of the rural economy.

P.G.K. Panikar \textsuperscript{38} remarks that 'green-revolution' has only just begun to take hold of the sector and its diffusions is confined to a few regions here and there. Under the circumstances we have to take resource to a cross section analysis in order to appraise the inter-relationship between capital formation and technological progress.

Capital formation in agriculture stands for the addition to assets like implements, machinery, livestock, farm buildings irrigation and drainage facilities, etc., as well as improvement in the quality of factor inputs including the human agent. This analysis discusses various aspects such as, inter-regional difference in capital formation, structure of assets, components of Asset Formation, Growth of Agricultural Productivity.

Bal. H.S. and H.K. Bal \textsuperscript{39} note that income influencing number of demographic and other socio-economic factors such as type of tenancy, size of family etc., among these factors the role of type of family, number of earners and educational level of the head of the family are found to be significant. The results of the study indicate that the increase in savings was relatively more for


\textsuperscript{39} Bal, H.S. and Bal, H.K., "Farm Family Savings", Yojana, No.16(20), 1982.
the nuclear families. Average savings increased with the number of earners in the family. Level of education showed significant effect on savings for these two years. The savings increased with the increase in the education level of the head of the farm family.

Ezekiel Hannan 40 points out that an increase in the savings rate is necessary if the planned rate of growth of income is to be achieved. The capacity to save depends upon the per capita income level. Increasing the marginal savings ratio further can only hit the already painfully low level of taxation, and it will hit savings ratio also.

Mensbrangghe Jean Vander 41 suggests that the age distribution of population is another factor influencing saving. The dependency rate measures the ratio of children invalids and retired persons to the labour force. The higher the dependent rates the lower the savings by households. In developing countries, the majority of households may hoard some agricultural surplus of seeds to be used in case of emergency, but they are too poor to save in other forms. Further more, empirical studies have shown that in both developed and under developed countries the MPS out of income from employment was much lower than that of income from other sources. The main reason to be adduced for this phenomenon is that usually employees receive lower income than other social groups.

41 Jean Vander Mensbrugge, "Domestic Savings in Developing Countries", Finance and Development Quarterly, No.9(1), March 1972.
Households wishing to purchase income-yielding assets may also make deposits on savings accounts. They may purchase bonds and this form of investment was relatively widespread in Europe during the 19th century.

Domestic savings of different sectors are the source of financing capital formation in the economy. However in the Indian context a large part of household saving gets invested in the form of gold and silver and household durables such as motor car, televisions, refrigerators, etc. These items are excluded in the CSO estimate of household savings and capital formation. Such a truncated definition of household saving behaviour and the traditional theories of absolute income hypothesis, permanent income hypothesis, life cycle hypothesis, etc., may not give adequate explanation of Indian household saving behaviour. Household saving is partly determined by consideration of provision for future consumption need as well as by business profit motives.

Gupta 42 has found the interest elasticity of savings to be positive and statistically significant at the 1 percent level for India, when per capita disposable income was used as explanatory variable. Williams 43 has found the interest elasticity of savings to be negative in five out of six Asian countries.

Gylfason 44 has estimated the interest elasticity of saving to 0.3 by the use of quarterly time series from the data bank of the Federal Reserve Board -

MIT-University of Pennsylvania econometric model of the U.S. economy. It involved separately introducing in the estimating equation nominal interest rates and the expected rate of inflation, both of which were statistically significant at the 1 percent level. The estimates are reasonably robust to the choice of the variables.

Blinder and Deaton in a time-series aggregate consumption function, have found that the elasticity of consumption of non durable goods and services with respect to the nominal rate of interest was -2.3 which corresponds to a high savings elasticity. However as the authors note, "the elasticity is to the nominal interest rate and does not appear if only the real rate is allowed in the regression". Also, the elasticity declines to -0.8 if the "Surprise" version of the equation favoured by the authors, which includes unanticipated income and wealth, is replaced by a "non-surprise" version.

In a study of twelve Latin American countries, including Argentina, Chile, Columbia, Costa Rica, Guatemala, Haiti, Honduras, Mexico Panama, Paraguay, Peru and Uruguay, McDonald has found evidence of a positive relationship between the real interest rate and private savings in most of the countries examined, with the estimated interest elasticity of savings clustering around 0.2.

Gupta estimates saving functions for twelve Asian countries (Burma, India, Indonesia, Korea, Malaysia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Taiwan and Thailand). Separating financial savings and savings in physical assets, the hypothesis being that increases in the interest rate will affect positively the former and negatively the latter. The explanatory variables included permanent income, transitory income, expected inflation unanticipated inflation, the nominal interest rate, the financial intermediation ratio, and uncertainty with respect to inflation.

Among the ten countries for which the interest rate variable could be defined, its coefficient was positive in nine of the financial savings equations. Of the nine equations, the coefficient of the interest rate variable was statistically significant at the 5 percent level in three cases, and it exceeded its standard error in four cases. In turn, as expected, the coefficient of the interest rate variable was generally negative in the physical savings equations. The coefficient was statistically significant at the 5 percent level to four cases and exceeded its standard error in three cases.

Bela Balassa concludes his report referring to the fact that negative real interest rates lead to a shift from savings to the purchase of gold, real estate, and consumer durables. Further more, higher interest rates abroad contribute to the outflow of savings, thereby reducing the amount available for domestic investment.

Keynes is perhaps the first economist to call attention to the existence of an independent investment function in the economy in departure from the prevailing notion that all available saving is automatically invested provided an appropriate interest rate exists in the economy. Keynes basic insight is that investment depends on the prospective marginal efficiency of capital relative to some interest rate reflecting the opportunity cost of the invested funds. In addition, he points out the intrinsic volatility of private investment, due to the facts that any forecast of the returns of investment accruing in the future will be necessarily incomplete and uncertain. According to Keynes, in such an environment, investors would be left to their “animal spirits” in making their investment decisions rather than it’s a rational calculation of an inherently uncertain distant future.

After Keynes, the evolution of investment theory was likened to simple growth models in the Harrod - Domar tradition. This gave rise to the accelerator theory popular in the fifties and early sixties and widely used even today in practical growth exercises. The accelerator theory makes investment a linear proportion of changes in output, as derived from a fixed proportion production technology. This extreme simplicity explains the popularity of the approach given an incremental capital output ratio (ICOR), it is easy to compute the investment requirements needed to achieve a given output growth target. In this model, profitability, expectations and cost of capital considerations play no role in the determination of investment.
The Neoclassical approach to investment introduces factor substitution in the derivation of the demand for capital from the firm’s cost minimization (or profit maximization) problem.

An alternative formulation of the investment function is the “Q” theory of investment associated with Tobin. In this approach the ratio of the market value of the existing capital stock to its replacement cost (the Q ratio) is the main force driving investment. Tobin provided two reasons why Q may differ from unity; delivery lags, and increasing marginal costs of investment. Abel and Hayashi reconcile the neoclassical and Q approaches, by showing that the matter follows from the firm’s capital accumulation problem under (convex) adjustment costs.

Investment is a function of both profitability and of output demand considerations. In Malinvand’s article on “Wage and Unemployment”, investment decisions are separated in two stages; the decision to expand the level of productive capacity, and the decision about the capital intensity of the additional capacity. This last decision depends on profitability variables like the relative cost of capital (including the real interest rate) and labour. On the other hand, the capacity decision depends on the degree of capacity utilization in the economy as an indicator of demand conditions. The distinction between both decisions is meaningful due to the assumption of a putty-clay technology.

so that factor proportions are flexible ex-ante but rigid ex-post. In Sneessens, 52 net investment is positively related to the gap between actual and long run equilibrium capacities. This in turn is a reflection of difference between actual and equilibrium rates of capacity utilization, and between actual and equilibrium market rates. Therefore investments depend both on profitability and on sales constraints. The investment decision, in turn, takes place on a setting in which same firms by facing comment and expected future sales constraints, an important departure both from the Neoclassical and the Q models.

In the context of developing countries investment may be subject to other constraints besides that of sales. Rama 53 has formulated and estimated investment equation in terms of profitability and sales and financing constraints. At the aggregate level, savings availability may be limited because of a lack of foreign savings in economics with a significant stock of outstanding foreign debt. Large fiscal deficits also reduce the volume of domestic savings available to finance private investment. At the micro level firms may face binding financial constraints if quantity adjustments rule in domestic capital markets. This may be the case because of the existence of controlled interest rates and also because, credit rationing may be a feature of the equilibrium in the loan market, as demonstrated by Stiglitz and Weiss. 54


Asymmetric information, adverse selection and incentive efforts may make interest rate changes on inefficient devices, to sort out good borrowers from bad borrowers. Under those conditions, credit rationing and quantitative constraints may become a preferred tool for lending allocation by the creditors.

There is a growing literature on the effects of financial constraints on investment (See Faazzai, Hubbard and Petension, 55 Colomiris and Hubbard, 56 Mayer 57, Mackie Mason 58). Its main contention is that internal finance (retained profits) and external finance (bonds, equity or bank credit) are not prefect substitutes. The discrepancy in the cost of different sources of financing is due to asymmetric information. Lenders in capital markets cannot evaluate accurately the quality of firms, investment opportunities, thus making the cost of new debt and equity differ substantially from the opportunity cost of internal finance generated through cash flow and retained earnings. According to this view, investment will be very sensitive to financial factors such as availability of internal finance or the access to capital markets. This new stand is, clearly a departure from the perfect capital market approach where the financial structure of the firm is irrelevant of a firm is not independent of its financial structure.

While studying saving and investment pattern of farm families in Luthiana district of Punjab, Kahlion, 59 observes average farm investment to be lowest among small farms and relative savings is very low due to high household consumption expenditure.

Nandal studies of income, savings and investment in selected demonstration farms in Haryana and concludes that long term agricultural development would depend upon the rate of capital formation in agriculture. Unless the farmers save money and plough back in capital assets, the irrigation equipment, tractors, farm machinery and buildings, etc., agriculture development may not make much headway and overall development of the country may be undermined. Further, Nandal fits a simple linear regression function to find the relationship between the investment and average income and estimates the marginal propensity to investment to be 0.46 and income elasticity of investment to be 1.17.

Kahlion 60 studies of savings and investment patterns of farm families in Punjab and finds that the investment expenditure as percentage of disposable income in 1969-70 is 23.84, 44.22 and 45.74 respectively and in 1970-71 it is 27.27, 48.11, 33.73 respectively for small, medium and large farms.

Ruddar Dutt 61 noticed two phenomenon regarding savings and investment. First there is a competitive increase in non-functional consumption on ceremonies like marriage, etc. Secondly there is a race in the use of prestige articles and services which are rapidly becoming the indices of high living standards. The continuous rise in prices eroded whatever little savings the less well to do, could make earlier. Thus, growing inequality has acted in a two-fold manner to act in to the savings potential of the household sector.

M.L. Singh and M.M. Mishra 62 have studied the objectives of the magnitude and capital formation in the various sizes of holdings, the changes in the magnitude and pattern of capital formation and the factors responsible for these changes. The data for this study are collected from a cross-section inquiry of 376 farmers taken at random from eight villages in two blocks of Purnea district. The authors have identified that the picture of capital formation of the district is bright although the proportion of investment is highest in livestock and lowest in irrigation. Further the bigger sized farms have taken greater advantages as compared to smaller sized farms.

An attempt has been made by A. Ganesh Kumar 63 to study the long run impact of the fall in agricultural investment on agricultural sector and on the rest of the economy. The author has concluded that slowing down agricultural growth would lead to growing income inequality in rural areas.

---

Gurpreet Singh Mander and S.S. Grewel in their “study on investment pattern on Punjab farms”, have said that the value of assets owned, size of operational holdings, extent of technology, farm and non-farm income, credit availability, type of family and education level of the decision making member in the family are the affecting factors of farm investment.

V.B. Bhise’s study has revealed that the average farm investment of the cultivating household is positively correlated with the size of holdings and the big farmers invest more than the smaller one, both the irrigated and dry farming villages.

CONCEPTS

A review of different concepts in the past studies is useful to define precisely the concepts used in the present study and to place the problem in its proper perspective.

Household

The census of India describes household as a group of persons who commonly live together and take their meals from a common kitchen unless the exigencies of work prevent them from doing so.

---

National Council of Applied Economic Research defines household as a group of persons related by blood or adoption who normally take meals from the same kitchen. Gupta and Iyengar also use the same concept to define a household.

Any unit, non-collective in form which makes choice with respect to the goods and services used in living is a household. Thus the unit 'household' on the consumption side of the economy is comparable with the unit 'firm' on the production side. Household is defined as a group of persons related by blood, marriage or adoption living under the same roof and sharing a common kitchen. A single person is considered as constituting a household, if a kitchen is, maintained by him. Except for newly born babies and newly wedded brides who are counted as the members of the household irrespective of their location, a person should have stayed in the household for at least six months during the reference period to qualify as member of it.

National Council of Applied Economic Research defines household as a unit of all persons, who are related to each other by blood, marriage or adoption and are living in the same dwelling unit continuously for not less than six

months during the period sharing the same kitchen. 72

For the present study, rural household is the household, which consists of a
group of persons usually living together and taking principal meals from a
common kitchen, located in all the Periyar district. Similarly urban households
refer to all households living together and taking principal meals from a
common kitchen, located in all the towns of Periyar district as per the last
census.

Directorate of Economics and Statistics define household as a family with
a common kitchen, common accounts and residing in the same house. 73

Occupation

It refers to the type of work done; however for the purpose of this survey
an occupation status, composite basis for classification is adopted and so, chief
earners are classified into four groups namely; (a) self employed farmers, (b)
self employed business men, crafts men and professionals, (c) wage earners, (d)
salary earners. The same classification is adopted for both rural and urban
areas.

72 National Council of Applied Economic Research, Changes in Rural Income in India, 1968-69,
30-32.

73 Directorate of Economics and Statistics, Studies on the Economics of Farm Management in
Coimbatore District -Tamil Nadu, Report for the Year 1971-72, (New Delhi, Directorate of
Income

Income of a household is viewed as a flow of receipts net of expenses incurred in the production process during an accounting period. Gross receipts include all receipts of the household relating to the production activity in which several members are engaged. A farm household has receipts through sale of farm products including the value of own consumption and a business household through sale of business goods including withdrawals for home consumption. A self-employed worker earns through sale of his services etc. Households can be classified into urban and rural households. Agriculture is the main profession for the rural households. Sources of income are more and variegated in the case of urban households than in rural households. Some studies have been done at all India level and their income concept includes income realised by both urban and rural households.

Gross income

Gurupada Chakrabarty\(^{74}\) has defined total gross income of the household as the algebraic sum of cash flows of earnings from agriculture, self-employment in businesses, profession and craft, salaries and wages, housed property and other sources such as dividends, interest, pensions and contributions received by all the earning members of the household. Meenakshi Malya\(^ {75}\) is of the opinion that gross income is the sum total of the income received by all the members of the household by their occupation. Rent from


leased out land, interest on loans and remittances received if any also supplement the income of the household.

To Nandal, income refers to farm gross income which consists of three components, namely,

i. farm income which includes the value of crops and livestock products, rent from leased out land, receipts from the sale of farm assets, custom hire services etc.,

ii. non-farm income which includes the earnings by services, earning from the resources employed in the non-farm activities, receipts from the sale of non-agricultural assets, gifts received, if any, and

iii. borrowings received from institutional and non-institutional sources etc.,

This classification was reported by Sharma et al.

Kahlon et al., Rai et al., Khare. Chauhan et al., use the concept

gross farm income to include the value at prevailing prices of retained as well as marketed crop output and also the income from allied activities such as dairy, goats and poultry.

Shah and Agrawal 82 report that farm income includes gross crop income, gross farm business income from farm stock disposal and non-agricultural income. Pandey 83 et al., argue that the total income of farmer is composed of agricultural as well as non-agricultural incomes. Bhati et al., have also supported the same view Paul A Samuelson and William D.Hordhans have stated that in measuring a persons economic status the two yard sticks most often used are income and wealth. Wealth is a stock of money, while income is a flow of money. More precisely income refers to the total amount of money earned or collected during a given period (normally a year). Thus a typical household might earn wages and salaries, to rent out on various assets; plans some transfer payment such as stock security for an elderly relative.

In the present study gross income is the sum of a Farm and non-farm income (h) wages and salaries (c) property income (Rent, interest and dividends) (d) pensions and regular contributions.

Gross income also includes rental value of owner occupied houses, but


capital gains and losses and irregular transfer receipts such as gifts, dowries and irregular lump sum receipts from matured insurance policies, provident and chit funds etc., are not included in current income.

In estimating gross income from farm and non-farm enterprises, net of operating expenses of a household include not only the material cost, labour cost and payments to services but also taxes payable such as property taxes, irrigation charges, agricultural income tax and business tax. In the case of farm enterprises, rents paid for leased-in-lands are also treated as operating expenses. Repairs and maintenance expenditure also form part of the operating expenses because they are needed to maintain capital stock in working condition during the production period.

Net Income

If depreciation or capital consumption of all assets is treated as an expense and deducted from gross income, the balance will be the net income. Net income is thus defined as gross income net of depreciation.

Misra compiled the net income by deducting from the gross receipts all the expenditures for cultivation (both home produced and purchased inputs), repairs and depreciation, cash and other costs of non-farm products, rent for the leased in land, land taxes and interest on production loans. The gross receipts

---

include the value of crops, value of livestock products, value of non-farm products, off-farm income, wages received from others for non-farm work and remittances from outside, if any.

Chakravorthy and Pattnaik 85 have calculated the net income by the same method as done by Misra. But they do not include the repairs and depreciation in the expenditure side. They also have given the name 'Earned Income' instead of net income. Katar Singh 86 takes only farm income on the income side and only variable cost in the expenditure side in calculating the net income.

In the present study net income refers to the gross income minus expenses on crop enterprises, livestock enterprises, permanent labourers, non-farm products, rent paid for the leased in land, taxes, land revenue, repairs and maintenance charges on wells, buildings, dead-stock etc., and interest on the money borrowed. Value of family labour, owned bullock labour, owned seeds, etc., have not been included in the cost of cultivation since the farmers were not actually incurring cash on these expenditures and that much amount was available with the farmers for other expenses.


Saving

Saving is the excess of income over consumption. National Council of Applied Economic Research defines saving as the sum of money value of the investments made on houses and other real estates and property, business, farm and livestock, household durables, jewellery, money lending, repayment of debts, large gifts made including dowries, deposits in banks and co-operative societies, government loans and securities, shares and bonds of private companies, payment to life insurance, provident fund and chit fund, adjusted for sale or liquidation of any assets, borrowing, past savings utilised and receipt of capital transfers. Later it redefines saving as income minus consumption or earned surplus or as increase in all assets less increase in all liabilities.

Desai defines saving as current output minus current expenditure. Here the definition of current can be period bound not exceeding one year. According to him, if one allows for consumption expenditure from the personal disposable income, the remainder can be defined as personal saving.

For Paney, et al., net saving of an economic unit during an accounting period is the difference between current disposable income and current consumption.

Chakravarthy 91 has defined saving of a household as distinct from business enterprise, is to have estimates of its total receipts and its total expenditure on current consumption account. The differences between the two would represent savings of the household.

Chauhan 92 et al. define calculated savings of the household as net household income minus household consumption expenditure.

Nandal 93 estimates savings by asset account method, gross saving are worked out by adjusting for changes in physical assets, financial assets, borrowing, lending, outflow and inflow of capital transfers. Net savings are obtained by deducting depreciation from gross saving.

Khare 94 expresses saving as the changes in physical and financial assets minus changes in liabilities adjusted for net capital transfers and net capital gains.

According to the All India Rural Credit Survey 95 Committee, the only way to measure savings of a household as distinct from a business enterprise is to have estimate of its total receipts and its total expenditure on current

---

consumption account. The difference between the two would then represent savings of the household and these savings may either be utilised directly for investment or be lent to others for current consumption or capital uses.

For the present study saving is defined as the difference between net disposable income and current consumption expenditure in any one year. Thus saving may be deposited in bonds, lent to others, invested in household assets.

Investment

Shastri 96 defines investment as expenditure on purchase of land, live-stock, implements and machinery and other land improvements including land reclamation, development of irrigation resources, laying out orchards and plantations and the imputed values of family labour at daily wage rate.

Investment by an individual in a given period would indicate, in general, an addition to capital assets i.e., expenditure of the funds in production or acquisition of capital goods according to All India Rural Credit Survey. 97

Desai 98 classifies investment into two groups namely investment on (i) durables and (ii) non-durables. The former includes farm equipment, wells and other irrigation structures, livestock, farm buildings and improvements on

land while the later includes purchase of inputs like seeds, fertilizer and the like.

Nandal 99 has described family investment as coming under three categories (i) farm investment includes investment on land, irrigation structures, farm buildings, farm machinery and implements, livestock etc. (ii) non-farm investment includes construction or purchase of residential plot means of transport as trucks, bus, car or tempo (iii) household investment represents residential houses and consumer durables.

Kahlon 100 et al. would classify investment into farm and non-farm and household investment. Farm investment includes purchase and improvement of land, farm machinery and irrigation structure.

Non-farm investment includes investment on non-farm occupation. Household investment includes construction, renovation of dwelling houses and consumer durables.

All India Rural Credit Survey Report defines net investment as expenditure on items of capital nature made by an individual household during a year as well as the change in its possession, outstanding debt. 101

In this study gross investment is referred to as the amount of additions or improvements to the physical and financial assets held by the household during the reference period. Net investment is nothing but gross investment minus depreciation.