DETERMINANTS OF SAVINGS OF RURAL HOUSEHOLDS IN KERALA

(ABSTRACT)

From the classical days, saving has been considered as one of the determinants of growth. In the Indian economy, the household sector contributes the lion's share of the total savings. In the household sector, rural households have tremendous saving potential which has not been considered seriously by the policy makers and hence, measures have not been chartered to mobilise these huge savings. In Kerala, in spite of low per capita income, the rate of savings is very high. There are various factors influencing the saving behaviour of the rural household sector in Kerala. This paper has tried to identify the factors influencing saving behaviour together with the nature of their influence on saving behaviour.

The study is based on primary data collected from one hundred households, selected from three villages in the three regions of the state. The study finds that the propensity to save in the rural household sector is very high. Level of income, income inequalities, value of assets and level of education of the head of the household positively influence savings whereas number of male children, number of earners and dependency ratio has negative influence. Among the occupational groups, households engaged in non-farm sector have higher propensity to save. The number of female children was, believed to have a positive influence on savings, however, in the present sample this factor shows a negative influence. In the era of increasing international financial integration, the high saving potential in the rural household sector should be mobilsed by proper policy measures to give stability to the economy. Identification of determinants of savings will help in framing policies accordingly.

DETERMINANTS OF SAVINGS OF RURAL HOUSEHOLDS IN KERALA

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I

From the classical days, saving has been considered as one of the determinants of growth. To lead the underdeveloped countries to the path of development, rate of savings must be enhanced. For the individuals and households, savings provide a cushion of security against future contingencies, whereas for the nation, savings provide the funds needed in the developmental efforts. To achieve higher rate of growth with relative price stability, the marginal propensity to save should be raised by appropriate incentives and policies. Also, in an era of international financial integration, for macro economic stability, higher domestic savings is necessary.

Aggregate savings in any economy depends on a number of interdependent variables. In the Indian economy, the household sector contributes a lion's share of the total savings and hence, to step up savings in the economy, saving rate of the household sector should be stepped up both in the rural and urban sectors.

In the Indian economy, rural sector is of great importance due to the limits set by this sector to the growth of other sectors. Since there is an assumption that the rural saving capacities are very low, the policy makers have not considered seriously about the mobilisation of savings from this sector. The Debt and Investment Surveys have shown that the rural households in India have made an average capital expenditure worth Rs.154 in 1961-62, which increased to Rs.1700 by 1991-92. Taking the number of households residing in

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rural areas, in India, the volume of investment in capital assets by the rural household sector is enormous.

In Kerala, in spite of lower per capita income, compared to other states, the rate of savings is very high, which is reflected in the high volume of deposits mobilised by the commercial banks, co-operative banks and regional rural banks. Average capital expenditure by rural households in Kerala, which was high at Rs.171 in 1961-62, compared to all India average, increased to Rs.3947 in 1991-92. In the gross capital expenditure, 68.56 per cent was in residential plots and buildings in 1991-92 whereas investment in farm business has declined from 45.61 per cent in 1961-62 to 14.5 per cent in 1991-92. The share of investment in non-farm business has been greater in Kerala. Thus, the investment in physical assets in rural Kerala is of peculiar nature. Investment in financial assets has also been increasing in the rural households which is depicted by the deposits mobilised by primary agricultural credit societies. The most important hypothesis for the low per capita income pertains to the lower rate of investment in the industrial and agricultural sectors of the state in spite of huge mobilisation of savings. Thus, saving and investment pattern prevalent in Kerala is of special interest and hence, the present study was undertaken with the broad objective of analysing the determinants of savings of rural households in Kerala.

Methodology

The study is basically an empirical one based on data collected by primary survey conducted by the researcher from 100 sample households. For the selection of the sample a two stage stratified sampling design was adopted, where the first stage units were villages and the second stage units were

households. Dividing the state into three regions on the basis of geographical concentration, namely northern, central and southern, and considering the various features which might directly or indirectly influence the level of savings such as cropping pattern, irrigation facilities, employment and occupation, credit institutions and infrastructural facilities, one district each was selected from each of the zones and from each district one village panchayat was selected, namely, Payam from Kannur district, in the north, Paralam from Thrissur district from the central zone and Ramankari from Alappuzha district in the south zone. Classifying the households on the basis of occupation groups, and giving proportional representation for each of the occupation groups one hundred households were selected. Since the objective of the study was to analyse the determinants of savings and not to estimate the savings at the regional or state level, the sample is not in proportion to the number of households in the district or the state. Data were collected from the sample by canvassing a detailed pre-tested schedule during the period January 1, 2001 to June 30th 2001, the reference period being the previous calendar year.

II

The act of saving is influenced by several variables like the perception of saving of those who save, their assessment of its costs and benefits, their age, family size and structure, objectives or motivations for saving, environment etc. Different rural households perceive saving differently. For some, saving is money reserved for future needs, whereas for some others it is surplus of income over expenditure and for still others it is purchase of land, construction of buildings, consumer durables or other household goods. When saving is perceived as money reserved for future needs it implies a deliberate decision

behind saving, rather than being a residue. This deliberate decision on the part of the households to save for meeting the future needs depend on many factors namely, the determinants of saving which includes the factors that affect both the ability to save and the will to save. As mentioned earlier, the present study aims to examine these factors, which determine the actual savings in the rural households.

Demographic Factors and Savings

Demographic factors like dependency ratios, age of the head of the household, size of the family, number of female children in the family and the number of male children in the family influence the household savings either through their impact on the ability to save or through their impact on the will to save. Some of these factors have a negative effect on savings whereas others positively influence household savings.

Age of the Head of the Household and Savings

Age of the head of the household is one of the crucial factors in determining the rate of savings by a household. The cornerstone of the life cycle hypothesis is the age related consumers' heterogeneity and the belief that saving follows a hump shaped pattern that is high at middle age and low at young and old ages. As Modigliani and Brumberg (1954) have put it as the reasoning for the life cycle hypothesis "the rate of consumption in any given period is a facet of a plan which extends over the balance of the individuals life, while the income accruing within the same period is but one element which contributes to the shaping of such a plan". The households' saving ratio and the relationship between its current consumption and its accumulated assets will

depend upon the age. According to the life cycle hypothesis, the average propensity to save for the given age group is assumed to be the same for all income levels, which is expected to rise with middle years, and fall again upon retirement. During the middle years income is likely to be high, most of the consumer durables have been acquired and there is the anxiety of a fall in the income upon retirement. These factors cumulatively account for a rise in savings during the middle years.

Table 1

Age of Head of the Households, Average Income and Savings.

Age group	Per cent of households	Average Income (Rs.)	Average Savings (Rs.)	Saving income ratio
25 - 35	7	81231	24841	0.31
35 - 45	19	58219	7059	0.12
45 - 55	27	66492	11057	0.17
55 - 65	28	86198	25132	0.29
65 and above	19	80565	8625	0.11

Source: Survey data.

In the study 7 per cent of households headed by people in the age group of 25-35 have a saving income ratio of 0.31. A possible explanation for this high saving income ratio of the younger age group is that most of these heads in the sample are engaged in self employed activities in non-agricultural sector or employed overseas. As a result they receive high income. Also, the consumption expenditure of households with younger heads are low because the children in these households have not started going to schools and hence expenditure related to education will be lower. 19 per cent of households,

headed by people in the age group of 35-45 have saving- income ratio of 0.12. Households with heads in the age group of 45-55 save Rs.11057 leading to a saving income ratio of 0.17 which is higher than the saving income ratio of the 35.45 age group. The highest saving income ratio of 0.29 was observed for the 55-65 age group. There are 19 per cent of households headed by people in the age group 65 and above, and these households earn an average annual income of Rs.80565. However, the saving income ratio of this group is lower at 0.11. The explanatory variable for the high level of income of these households is that there are more number of earners is these households. However, the senior members of the household are forced to consume out of their past savings leading to higher consumption expenditure and lower saving income ratio. Saving income ratio is lower for households with younger heads and reaches the maximum when attaining the age of 55 - 65 and coming down after that.

Dependency Rates and Savings

High birth rates and dependency ratios particularly in the case of underdeveloped countries, may entail a sub optimal allocation of resources due to physiological and institutional rigidities. That is, children are born to parents who might prefer not to have them born, but, who are thereafter committed to supporting them. These dependents absorb a large portion of the resources potentially available for increasing the stock of physical and human capital. (Leff, 1969). Thus dependency ratio has a negative effect on the savings of the households. Friedman (1957) and Spengler (1951) have suggested that birth rates should be inversely related with a country's saving potential.

The inverse relation between savings and dependency ratios is because children increase the need for expenditure which is considered as consumption

expenditure in the standard income accounting framework. Hence a high dependency ratio imposes a constraint on the society's potential for savings. This hypothesised link between high dependency ratios and low savings is direct. But this does not mean that larger families save less than smaller families. Eizenga's study (1965) could find a positive relation between large families and savings as additional members add to the income of the family. Modigliani (1965) in accordance with his life cycle hypothesis of savings, hypothesised that savings could be a positive function of population growth. He argues that as the size of the successive age cohorts entering the economically active population increases, saving for their retirement increases.

In the study, 1 per cent of households having no dependents had an average saving income ratio of 0.24. 14 per cent of households having one dependent each have an average income of Rs.63302 and an average savings of Rs.15888 with a slightly higher saving income ratio of 0.25. Saving income ratio of households having 2 dependents is still higher at 0.27. There are 30 per cent of households with 3 dependents each. These households saved 16 per

Table 2
Number of dependents income and savings

(Rs)

Number of dependents	Per cent of households	Average income	Average Savings	Saving income ratio
0	1	28375	6937	0.24
1	14	63302	15858	0.25
2	25	71122	19049	0.27
3	30	68181	10823	0.16
4	19	78695	16022	0.20
5	7	80206	13236	0.17
6 and above	5	138689	13241	0.10

Source: Survey data.

cent of their income. Households having 4 dependents each show a higher saving income ratio of 0.20. When the number of dependents increases further to 5, the income level shows an increase to Rs.80206 suggesting that these households are mostly joint families, though not in the traditional meaning of the term and have more earning members. However, saving income ratio has come down to 0.17. 5 per cent of households have 6 or more number of dependents. Their income is higher at Rs.138689. Average savings has declined to Rs.13240 which results in a saving income ratio of 0.10.

Hence dependency ratio has a negative bearing on the savings of households. Households with more children at home save less because saving for retirement is deferred until the children leave home. Older people work less and consume out of their past savings. Thus saving rates depend negatively on the dependency ratio. As Loayza, et al (2000) have observed "micro-economic and macro-economic evidences, both at the international and single country level confirm that a rise in the young age and old age dependency ratios tend to lower private saving rates.

Male and Female Children and Savings

In India, female children are considered as big burden, by the households. The savings of the households are supposed to be positively related to the number of female children. But the number of male children in the household is likely to have a negative effect on the saving of the household. This is because male children serve the function of an economic asset or are regarded as such. Households with more male children are likely to have a lower demand for other forms of wealth. Male children look forward to higher rates of labour force participation and higher lifetime earnings while females

require huge expenditure for marriages and related activities. Male children are expected to support parents in old age. They can be regarded as long term assets which, to some degree, might satisfy the household desires for wealth accumulation. This substitution effect is likely to be stronger for households with older heads, who might more nearly depend on grown sons for support; also, for lower income households, with lesser opportunity for investment in alternative assets. As opined by Kotlikoff and Spivak (1981) these households internalise many of the insurance activities that would other wise require saving. Transfer within the household can insure the individuals against health risk and old age by providing what are effectively annuities and the close relationships between individuals concerned may mean not only that moral hazard issues are less secure than in a more individualistic society but also that the quality of protection is very high.

Table 3

Number of unmarried female children, income and savings

No. of unmarried female children	Per cent of households	Average Income	Average Savings	Saving Income Ratio
Nil	44	74402	17353	0.23
1	41	71680	12515	0.17
2	10	64156	6118	0.09
3 and above	5	117416	28725	0.24

Source: Survey data

In the study, even though the highest saving income ratio is found in the households with the largest number of unmarried female children, a direct relation is not visible between these two variables. In the households with no

unmarried female children, average saving income ratio is 0.23. However, when the number of unmarried female children is one, the saving income ratio is lower at 0.17. For 10 per cent of households with an average number of two unmarried female children each, the average saving income ratio is only 0.09. There are only 5 per cent of households who have unmarried female children of 3 and above. These households have a saving income ratio of 0.24. A possible explanation for the lower saving income ratio of the households with one and two unmarried female children is the lower income derived by the households.

Table 4

Number of male children above 10 and savings

No.of male children above 10	Per cent of households	Average Income	Average Savings	Savings Income Ratio
Nil	38	77639	20657	0.27
1	45	73827	12824	0.17
2	16	68169	8977	0.13
3 and above	1	66950	8990	0.13

Source: Survey data.

However, as hypothesised, the number of male children above 10 has a telling negative effect on the savings by the households. In the sample 38 per cent of households are without any male offspring above the age of 10 and these households save 27 per cent of the income they have earned during the year. When the number of male children increased to one, the saving income ratio declined considerably to 0.17. With further increase in male children to 2 and 3, saving income ratio has declined to 0.13.

Education of the Head of the Household and Savings

One variable, which has an association with savings of the households is the educational status of the households. The higher the level of education of the head of the household, the stronger is the demand for his services in relation to supply. "There seemed to be a direct correlation between the number of regularly saving and the education of the head of the household", finds the NCAER (1964) study. Kelly and Williamson (1968) believe that education may have an important effect on expected future income and thus on present consumption. However, Sharma (1986) opined that income remaining the same, almost all educational groups of households save about the same proportion of income. Thus, the effect of education, on personal savings seems to be absent, at least at the higher level of income.

Table 5

Education of the Head of the Household, Income and Savings

(Rs)

Level of education	Per cent of households	Average Income	Average Savings	Savings Income Ratio
Illiterates	4	31877	-6642	-0.21
Primary	62	62837	9072	0.14
Secondary	28	85081	19357	0.23
Degree	4	175117	56769	0.32
Professional	2	163803	87260	0.53

Source: Survey data.

The survey data point to the fact that the level of income is directly influenced by the level of education. The saving income ratio has also been influenced by the level of education. 4 per cent of households headed by illiterates find it difficult to make both ends meet with their income and they live beyond their means. 62 per cent of households are headed by people with education up to primary education. The average income of these households is Rs.62837 and the saving income ratio is 0.14. 28 per cent of the heads of

households have secondary education. These households get a higher average annual income of Rs.85081 and they save Rs.19357 out of this. Only 4 per cent of households are headed by degree holders. These households get the highest average income of Rs.175117 and they save 32 per cent of their income. 2 per cent of household heads have professional qualification and they have the highest saving income ratio at 0.53.

Number of Earners and Savings

Another crucial factor determining the level of savings of the households is the number of earners in the households. Other things remaining the same, the number of earners govern the income of the households while the number of non-earners or dependents will affect the ratio of consumption to income. (Panikar, 1992). According to NCAER (1964, p.6), "whereas a household contains more than one earner, the age of the head of the household may not be very important in the determination of the direction of change in household income".

Table 6
Number of Earners, Average income and savings

(Rs)

No.of earners	Per cent of households	Average Income	Average Savings	Saving Income Ratio
1	42	60507	10029	0.17
2	41	74101	17920	0.24
3	14	95854	20338	0.21
4	3	180653	11335	0.06

Source: Survey Data.

The survey data explains that income of households increase with the number of earners. However, savings do not proportionately increase with the

number of earners. 42 per cent of households, where there is only one earner, get an average income of Rs.60507 and saves 17 per cent of their annual income. 41 per cent of households have 2 earners each and their average income has increased to Rs.74101 and they save Rs.17920, on an average. There are 14 per cent of households with three earners each and their average income comes to Rs.95854. An average amount of Rs.20338 is saved by them resulting in a saving income ratio of 0.21. Only 3 per cent of households have more than 3 earners. These households get an average income of Rs.180653, but their savings are lower than that of the earlier two groups. The households having more than two earners should be joint families where the individual members do not consider it as their duty to save for the future.

Occupation Groups and Savings

The occupation of the head of the household is a factor affecting the saving differentials between households. Occupation has proved to be a good classificatory variable for estimating permanent income. In fact, households do not consider the source from which income comes when it is taken for consumption decisions. In traditional analysis, income is divided on the basis of occupation into two sources namely profit and wages. Profits and marginal saving rates may be positively correlated with levels of permanent income. Sharma (1979, p.52) is of the opinion that whether a person is self-employed or is an employee is significant for his saving behaviour. Self employed households, whether in non-farming or in farming, save a higher fraction of income than the wage earners. The saving income ratio of salary earning group is on a par with that for the self-employed .

Table 7

Average Income and Savings of Different occupation groups

(Rs)

Occupation groups	Per cent of households	Average Income	Average Savings	Saving Income Ratio	Per cent share in total savings
Cultivators	33	73650	11430	0.16	25.60
Agricultural labourers	21	35172	-5280	-0.15	-7.35
Non agricultural labourers	16	49483	2084	0.04	2.56
Salaried group	16	105940	30325	0.29	33.91
Self employed	12	120855	45298	0.37	35.47
Overseas employed	2	139679	62560	0.45	9.80

Source: Survey data.

One third of the total sample households are cultivators whose average income amounts to Rs.73650. These households save 16 per cent of their income. The saving income ratio of the cultivator households is lower compared to that of the salaried class, the self employed in non-agricultural activities and those who have overseas employment, as the principal source of income. The studies by Krishnamurthy (1996), Krishnamurthy and Saibaba (1981) and Mody (1983) for household savings also have testified the hypothesis of higher saving ratio in the non-agricultural sector. Friend (1966) made a pioneering effort in marshalling definite evidences from NCAER data in favour of the hypothesis of lower propensity to save of the agricultural sector. In the Indian context Raj (1962) has also hypothesised the lower

propensity to save in the agricultural sector than that in the non-agricultural sector.

Agricultural labour households are the lowest income strata among the different occupation groups. The fall in the prices of agricultural commodities have led to a fall in the number of working days of the agricultural labourers which made it difficult for them to make both ends meet. The households whose heads are engaged in fixed income earning employment get an average income of Rs.105940 and they save 29 per cent of their income. The households engaged principally in self employment activities in non-agricultural sector has received an average income of Rs.120854. Out of this high income they saved 37 per cent . Only in 2 per cent of households, the principal bread winner is employed overseas. These households get the highest income in the society and they also save a good portion of their income. Thus, those engaged in the non-agricultural activities account for the major share of savings in the rural area also. As much as 81.74 per cent of the total savings made is contributed by households whose principal occupation is not agriculture or related activities. In short, in the rural areas non-agricultural households have higher propensity to save compared to the agricultural households.

Income and Savings

The ability to save of a household depends on the income of the household and income is considered as the most important explanatory variable of the savings of the household. In theory, income is conceived differently by different theories namely, absolute income, permanent income, relative income and life cycle income. These different concepts give different explanations for

consumption behaviour of households and thus to the saving behaviour. Empirical evidences have been put forward by different scholars in support of most of these hypotheses explaining saving behaviour. Gupta (1970) has found that marginal propensity to save is an increasing function of income at lower levels of development. According to Chakravarthy and Patnaik (1970), consumption, saving and investment pattern may be related with income in at least two ways - one by the level of income and another by the trends of income change. In the literature on household savings in developing countries, Bhalla (1980) for India, Musgrove (1980) for Latin America and Betancart (1971) for Chile have found that saving will increase with permanent income as conventionally defined, so that elasticity of consumption with respect to measured consumption is less than unity. Kraay (2000) has found that saving rates and levels of income per capita exhibit a modest positive correlation. He finds that average saving rates rise as household income progresses beyond the base minimum required for survival.

The three lowest income groups together account for 43 per cent of households and their cumulative contribution towards savings is -17.31 per cent. Keynes (1936) predicted an increase in average propensity to save of the average family when families move up to a higher income level. The lower income groups are likely to be at the biological or social minimum level of consumption. As Gersovitz (1983, p.84) has rightly found, people near subsistence level of consumption will have lower average saving rates than richer people as the share of their income available for smoothing consumption is smaller.

Table 8

Average income and savings of households of different income strata

Income Groups	Per cent of households	Average income (Rs.)	Average savings (Rs.)	Saving income ratio	Per cent share in total savings
0 - 25,000	8	20619	-9288	-0.45	-5.25
25,000 - 35,000	15	30051	-7279	-0.24	-7.40
35,000 - 50,000	19	40728	-3621	-0.09	-4.66
50,000 - 75,000	24	60869	5269	0.09	8.44
75,000 - 1,00,000	12	86674	23842	0.28	17.78
1,00,000- 1,50,000	14	124365	39533	0.32	37.53
1,50,000 - 2,00,000	4	171815	76211	0.44	22.39
2,00,000 and above	4	245862	98390	0.40	31.17

Source: Survey data.

Income has a decisive role to play in determining the savings by the households. Whereas the lower income households find it difficult to meet their current expenditure, the higher income groups could save a large portion of their income. The top two income brackets have saved more than 40 per cent of their income whereas the lowest three income brackets stand as a drain on community's savings.

Income Inequalities and Savings

The distribution of income is an important determinant of saving. If saving propensities differ among households, aggregate saving will vary depending on how income is distributed among households. However, researchers are divided on the effect of income inequalities on savings. Over the years family budget data have shown that saving income ratios of upper

income groups are higher than those of lower income groups implying that an unequal distribution of income promotes savings. However, Friedman (1957) states that a reduction in the inequality of the permanent income status, whatever its importance in other connections is, neutral with respect to the savings ratio. It is inequality in the transitory income components which means uncertainty about income prospects which, in turn, increases the need for saving for emergencies.

In the sample, 23 per cent of households in the top three income brackets account for 91.09 per cent of the total savings. In fact, these households share 48.94 per cent of the income also. 42.33 per cent of households in the bottom three income brackets get only 18.81 per cent of the total income and their cumulative contribution towards total savings is -17.31 per cent. Coming to saving income ratio, the lowest three income groups have saving income ratios of -0.45, -0.24 and -0.09. From the income group Rs.50000 - 75000 onwards the saving income ratio becomes positive. Thus, as Musgrove (1980, p.513) has rightly said, "it is intimately appealing to suppose that as the income of a consuming unit or household increases the fraction of income spent for consumption will remain constant or decline. From that supposition it is a short and plausible leap to the expectation that as income is more equally distributed in an economy, the APC should remain the same or rise. However the second proposition does not logically follow from the first, unless all income transfers take place among recipients, who have identical tastes and are alike in every aspect except income.

Assets, Income and Savings

Wealth has been thought of as a key determinant of consumption or saving as permanent income is assumed as a stream of income from total wealth. The ascendance of the permanent income and life cycle theories, has given additional theoretical support to this idea. For any economic unit, wealth reflects the net result of accumulated savings, revaluation of assets and capital transfer ever since the unit came into existence. Assets are accumulated to spread income over time. The desired level of assets is a direct function of permanent income and is acquired only over a fairly long period of time.

Theory unambiguously predicts that greater wealth would reduce saving out of current income. However, according to Deaton (1989, pp.70-71) many of the rich households are likely to have accumulated assets and broken out of liquidity constraints. For the members of this group, consumption is growing over times, but so are assets, at least for the group as a whole. The presence of some of these households in the cross section will further enhance the positive correlation between saving and asset levels. For Kelley and Williamson (1968), the marginal and average propensity to save out of income tend to rise with greater land ownership, suggesting a positive interaction between wealth and income.

Holding of higher stock of financial assets allows a household to maintain a higher consumption rate, on an average, thus depressing the saving rate, as the consumer can draw on the assets to maintain his consumption levels. Schmidt Hebbel, Webb and Corsetti (1992) find a negative relation between wealth and saving. Assets are found to have a negative effect on saving in Choudhari's (1968) study on Indian households.

In the present study income has a direct relationship with the assets of the households. In the lowest asset group there are 5 per cent of households who have an average income of Rs.36271 and an average negative savings of Rs.3536. 33 per cent of households belonging to the top four asset groups account for 73.86 per cent of the total savings made by the households. The lowest four asset groups representing 35.33 per cent of households have accounted for -1.3 per cent of the total savings. 12 per cent of households in the next higher asset group have average income of Rs. 35883 and they dissave to the extent of Rs.3134, on an average. Saving income ratio of the Rs.100000-200000 asset group is 0.04.

Table 9

Income and savings of different asset groups

Asset Groups (Rs.)	Per cent of households	Average Asset(Rs.)	Average Income (Rs.)	Average Savings (Rs.)	Saving Income ratio	Per cent share in total savings
0 - 50000	5	38214	36271	-3536	-0.10	-1.12
50000 - 100000	12	71493	35883	-3134	-0.09	-2.62
100000 - 200000	9	149552	43470	1619	0.04	1.02
200000 - 350000	9	267554	54864	2322	0.04	1.42
350000 - 500000	7	427790	66896	14739	0.22	7.33
500000 - 750000	15	612507	67770	8961	0.13	8.91
750000 - 1000000	9	873434	79491	17668	0.22	11.19
1000000 - 1500000	16	1234894	88341	24005	0.27	26.06
1500000 - 2500000	11	1872270	120218	34496	0.29	24.96
2500000 - 5000000	6	3219196	132100	40390	0.31	15.52
5000000 & above	1	5590567	234933	108072	0.46	7.33

Higher saving income ratio for higher assets does not validate the fact that larger assets generate larger income and hence higher savings, in the case of Kerala. The higher asset value does not necessarily mean higher production. The higher saving income ratio for the higher asset groups is rather because, these households have other sources of income which has led to larger asset creation. This is particularly true in the case of cultivator households who have higher asset value but less than proportionate income.

III

Findings and Conclusions

The study points to the high saving potential that exists in the rural household sector in Kerala. It was found that the average propensity to consume of the rural households is 0.20. Some of the factors having some influence on the saving behaviour of rural households were identified.

It was found that, with the exception of the youngest age group, savings follow the hump shaped pattern as proposed by the life cycle hypothesis. The youngest age group has recorded very high saving income ratio of 0.31. The study revealed that the old age dependency ratio and young age dependency ratio have negative effect on savings. Saving income ratio was found to be optimum for the households in which the number of dependents is 2. The lowest saving income ratio of 0.11 was recorded by the households where the number of dependents is 6 more.

Number of unmarried female children does not seem to make a telling impact on the savings of the households. Even though the highest saving

income ratio was found for the households with three or more unmarried female children, these households have also recorded the highest income.

The number of male children above 10 has a negative effect on the savings of the household. When the number of male children above 10 increased, saving income ratio has recorded a decline. The education of the head of the household has a positive influence on the savings of the household. From negative savings for households with illiterate heads, saving income ratio has increased steadily to reach 0.32 for households whose heads have education of degree and above and further to 0.53 for households with heads having professional qualification.

The study has shown that income of the households increase with the number of earners. However, savings do not increase proportionately with the number of earners. The highest saving income ratio of 0.24 is recorded for the households with two earners. Saving income ratio has declined to reach 0.06 for the households with 4 earners each.

Among the different occupation groups, only agricultural labour households have negative savings whose saving income ratio is -0.15. The households classified as ‘overseas employed’ have the highest saving income ratio of 0.45. The non-agricultural households in the rural sector have higher propensity to save compared to the agricultural households.

The lowest three income groups have reported negative savings. Positive savings start from Rs.50000-750000 income class. Income plays a decisive role in determining the savings by the rural households.

The study has also found that 23 per cent of households in the top three income brackets account for 91.09 per cent of the total savings. These households share 48.94 per cent of the income also. 42 percent of households in the bottom three income brackets get only 18.81 per cent of the total income and their cumulative contribution towards total income is -17.31 per cent.

In the present study, it was found that the higher asset groups have higher income, even though the causality is not that larger assets lead to higher income. In the study, it was also found that there is a direct relation between value of assets and saving income ratios.

In the above paragraphs we have examined the influence of different factors on savings and we have identified certain variables like age of the head of the household, dependency ratio, number of female children, number of male children, number of earners, income and asset and occupation of the head of the household with considerable influence on savings. To reassure this claim a linear multiple regression model of form

$Y = \alpha+\beta_1x_1+\beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + \beta_7x_7 + \beta_8x_8 + U$ was fitted,

where,

Y = savings, x_1 = Age of the head of the household, x_2 = Number of dependents, x_3 = Number of female children, x_4 = Number of male children, x_5 = Years of education, x_6 = Number of earners, x_7 = Income, x_8 = Assets, U = Error term

Table 10. Regression output

Variable	Coefficient	T Value
Intercept	-3344.01	-0.33
X variable 1	6.19	0.04
X variable 2	-2282.88	-1.44
X variable 3	-1193.86	-0.45
X variable 4	-2580.11	-1.02
X variable 5	825.41	1.89
X variable 6	-2201.09	-0.95
X variable 7	0.263	8.54
X variable 8	0.006	3.92

$R^2 = 0.389$

$F = 23.21$

From the table it is seen that the variables with significant influence are income and assets, closely followed by years of education and to some extent, number of female children. From the co-efficient it is evident that the marginal propensity to save is 0.26. This is almost in tune with the national average. Between number of female children and savings, even thought not statistically very significant, a negative relation was observed. The general belief is that when the number of female children is more, there is an increased tendency to save. A just opposite result in the present study may be due to low income in the sample households where the number of female children is more. Also, many of the coefficients are found to be insignificant, may be because of reporting errors which is natural in details on income, expenditure and savings. Minimisation of errors may lead to better coefficients.

In the above paragraphs, we have seen that education, income and assets are the significant variables influencing savings. To reassure this claim a separate linear regression was worked out considering three significant variables education, income and assets. The results are presented in table 11.

Table 11

Regression Output

Variable	Co-efficient	T-value
Intercept	-16617.4	-4.936
X variable 1	1032.474	2.621
X variable 2	0.231	8.656
X variable 3	6.927	3.609

R2 = 0.367

F = 57.272

Where, X1 = Years of education

X2 = Level of income

X3 = Assets of the households

From the table it is seen that all the three variables are statistically significant with a direct effect. A negative value for the intercept also tells us that in the absence of these variables savings will be negative. Further, the trends in these three variables are complimentary. It is simple wisdom that education and income are directly related. A higher income leads to higher savings because of unutilised high income. So these trends broadly infer that education, income and possession of assets leads to higher savings which is inconformity with conventional explanations for motives for savings.

Policy Implications

The study has revealed that the saving capacities in the rural sector is very high in Kerala. This can be mobilised by giving sufficient incentives to the savers. There is a tendency for the rural households to opt for instruments offered by the informal financial institutions. The reason for the preference of informal financial institutions is the flexibility in their operations. If the formal financial institutions adopt such flexible operating methods these savings can be channelised for investment in productive sectors. The high propensity to save among the non-agricultural households, as was revealed by the study, points to the need to concentrate on these households in the saving mobilisation efforts of the financial institutions. The cultivator households derive only less than half of their income from agricultural operations, in spite of large productive assets held by them. This is a cause of concern for the policy makers as this points to the low productivity in the agricultural sector in Kerala.

Conclusion

The propensity to save in the rural household sector in Kerala in spite of low per capita income is very high. There are factors having negative and positive influence on saving behaviour of rural households. Whereas level of income, extent of income inequalities, value of assets and level of education exert a positive influence on savings, dependency ratio and number of male children have negative influence.

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REFERENCE

(1) Betancourt, R.R. (1971), "The Normal Income Hypothesis in Chile", Journal of the American Statistical Association, Vol.66, June.

(2) Bhalla, S.S. (1980), "The Measurement of Permanent Income and its Applications to Saving", Journal of Political Economy, Vol.88, No.4.

(3) Chakravarthi, C.K. and R.R. Patnaik (1970) "Income Distribution and Saving Investment Pattern of Cultivating Households", Indian Journal of Agricultural Economics, Vol.XXV, No.3.

(4) Deaton, Angus (1989) "Saving in Developing Countries: Theory and Review", Proceedings of the World Bank Annual Conference on Development Economics, April.

(5) Eizenga, W. (1965) "Demographic Factors and Savings", Amsterdam, 1961.

(6) Friedman, Milton (1957) "A Theory of Consumption Function", Princeton University Press, Princeton, New Jersey.

(7) Friend, Irvin (1966) "The Propensity to save in India" in Butani and Singh, eds. Economic Development, Issues and policies, Bombay. Vora and Co. Publishers Pvt. Ltd.

(8) Gerzovitz, Mark (1983) "Saving and Nutrition at Low Income", Journal of Political Economy 91(5).

(9) Gupta, K.L. (1970) "Personal Saving in Developing Nations, Further Evidence", Economic Record, June.

(10) Kelly A.C. and G. Williamson (1968) Household Saving Behaviour in the Developing Economies: The Indonesian Case", Economic Development and Cultural Change, Vol.16, No.3.

(11) Keynes, J.M. (1936) "The General Theory of Employment, Interest and Money", New York, Harcourt Brace and World.

(12) Kotlikoff L.J. and A Spivak (1981), "The Family as an Incomplete Annuities Market", Journal of Political Economy, 89.

(13) Kraay Aart (2000) "Household Saving in China", The World Bank Economic review, Vol.14, No.3.

(14) Krishnamurthy, K and P.Saibaba (1981) "Determinants of Saving Rate in India", Indian Economic Review, Vol XIV

(15) Krishnamurthy, K. (1966) "Consumption Function for India: A Macro-Time Series Study, The Indian Economic Journal, XIII (2).

(16) Leff, Nathaniel, H. (1969) "Dependency Ratios and Saving Rates", American Economic Review, Vol.59, No.5.

(17) Loayza, Norman, et al (2000), "Saving in Developing Countries: An Overview", The World Bank Economic Review, Vol.14, No.3.

(18) Modigliani Franco and Richard Brumberg (1954), "Utility analysis and the consumption function: An interpretation of Cross Section Data". In Kenneth K. Kurikara, ed. Post Keynesian Economics, New Bruswick. Rutgen University Press.

(19) Modigliani, F. (1965), "The Life Cycle Hypothesis of Saving, the Demand for Wealth and the Supply of Capital, Paper presented to the Rome Congress of Economic Society.

(20) Mody, Asoka (1983) "Rural Resources Generation and Mobilisation" Economic and Political Weekly, Annual Number, May 1983.

(21) Musgrove, Philip (1980), Income Distribution and the Aggregate Consumption Function", Journal of Political Economy, Vol.88, No.3.

(22) NCAER (1964) "Attitudes Towards and Motivations for Saving", New Delhi.

(23) Panickar, P.G.K (1992) "Rural Household Savings and Investment", A study of Some Selected Villages" Centre for Development Studies, Occasional Paper Series, Trivandrum.

(24) Raj, K.N. (1962) “The Marginal Rate of Savings in the Indian Economy”, Oxford Economic Papers, Vol.14, No.1.

(25) Roy Choudhari U.D. (1968) “Income, Consumption and Saving in Urban and Rural India”, Review of Income and Wealth, 14, March.

(26) Schmidt Hebbel, Klau, Steven B.Webb and Gian Carlo Corsetti (1992), “Household Saving in Developing Countries, First Cross Country Evidence”. The Word Bank Economic Review, Vol.6, No.3.

(27) Sharma, I.R.K. (1979) “Saving Behaviour of the Household Sector”, Margin, Vol.12, No.1.

(28) Sharma, I.R.K. (1986), “Does the Saving Behaviour of the Indian Household Sector Conform to the Planner’s Expectations”, Margin Vol. 18, No.4.

(29) Spengler, J.J. (1951) “The Population Obstacle to Economic Betterment”, American Economic Review, 41, May.