CHAPTER II
REVIEW OF LITERATURE AND
THEORETICAL FRAME WORK

This chapter contains the review of the various related studies and the theoretical framework.

2.1 Review of related studies

Consumption is the predominant component of aggregate demand in an economy. For this reason consumption behaviour occupies a central position in modern macro theory. Consequently the subject has been widely discussed in the literature. This section reviews briefly the various developments in consumption theories. The review is done under two heads for better understanding.

(a) General studies on consumption pattern

(b) Studies on consumption pattern of scheduled castes.

2.2 General studies on consumption pattern

Report (2002) based on Household Budget Survey Data analysed expenditure pattern in Mauritius. Consumption options were found to have widened. The study showed that: average household monthly expenditure registered a rise of about 31%, from Rs 8,172 in 1996/97 to Rs. 10,725 in 2001/02; A lower % of budget was found devoted to food consumption and changing consumption patterns reflected changing life styles and improved living conditions. Prepared meals, frozen sea products, milk preparations and canned vegetables were found assuming greater importance within the food category; Increased importance in the household budget of items such as electricity cooking gas, refrigerator, washing machine and washing materials were observed, while rent and water charges decreased significantly; personal transport expenditures increased by 50% percentage points while the weight of bus fare showed a slight decrease. ¹

Pendakur (2001) estimate the poverty rate as the proportion of individuals who have consumption - rather than income - lower than the absolute poverty line.
based on survey data. Here, consumption was adjusted for differences in the prices faced by, and demographic characteristics of, different households. As with income poverty measures, the consumption poverty rate was found declined over the 1970s and 1980s however, the 1990s, the consumption poverty rate increased by more than half between 1992 and 1998.²

Murthy (2001) re-examined the usefulness of the linear expenditure system vis-a-vis two other flexible models viz. Nasse expenditure system, a generalization, of the linear expenditure system itself, and almost ideal demand system in the context for India. The above three models were extended by incorporating dummy variables representing three income groups, rural urban sectors and their interactions; one demographic variable namely household size and time trend variable representing consumer taste & preference in to the appropriate demand model parameters. National Sample Survey data on consumer expenditure for five quinquennial rounds are used for estimating the above models. Seven broad commodity groups are used in the analysis. The empirical result show wide variation in marginal budget shares and demand elasticity across income groups, rural urban sectors and alternative models. The household size and consumer taste & preferences are found to be statistically significant. The results have confirmed the earlier findings that there are significant changes in consumer tastes away from cereals and pulses in favour of other food.³

Deaton (2000) examined poverty and inequality in India considering related evidence from C.S.O, National Accounts Statistics and N.S.S.O. It was found that per capita expenditure grow more rapidly across already better of states than the poorer states. Rural urban disparities of per capita expenditure were found to have increased, also inequality with in urban areas. Examination of other indicators of living standards such as literacy rate, nutritional levels, health achievements, it was found that social progress has been uneven across the different fields. Significant increase in economic inequality is found.⁴

Andrew (2000) using annual time series data for Indian state examined the relationship between average household living standard and inequality. Causality tests are applied to investigate the relationship between household consumption and
subsequent inequality on the one hand and initial inequality and subsequent consumption on the other. Lower inequality has generally been associated with higher future consumption levels, but urban sectors of some state's consumption is positively correlated with subsequent inequality.\(^5\)

The household expenditure survey (1999) on the expenditure pattern of households in Malaysia to determine the goods and services to be included in the basket of the Consumer Price Index. The findings showed an increasing trend on consumption expenditure by households in Malaysia between the periods 1973-1989. Results show that about 80% of the household's expenditure is spent on four main groups namely food, rent, fuel and power transport & communication, and miscellaneous goods and services which includes food and beverages away from home. On an average households living in urban areas spent 1.5 times higher then households living in rural areas.\(^6\)

Young (1998) identified household consumption expenditure patterns in the US to determine if these patterns were different from those of Korean households using household survey data. Data were cluster analysed, and the results revealed four different consumption expenditure patterns for US and Korean households. Logit analysis showed that consumption expenditure patterns of households in both countries were likely to vary depending on socio-economic factors. Similarities and differences in consumption expenditure patterns between cultures were discussed, and implications were provided.\(^7\)

Maifi (1993) used NSS data for the period 1953-54 to 1989-90 to study the incidence of urban poverty. The inter temporal change in inequality in urban consumption expenditure had been analysed on the basis of Lorenz ratios of size distribution of per capita expenditure. It is found that the average per capita expenditure in nominal terms both for the poorest and richest 20% of urban population has registered a substantial increase in the late 1980's compared to the early 1950's. The poverty measure head count ratio and Sen index showed that the percentage of people below poverty line increased up to the mid 1960's and then declined very sharply till latest NSS round.\(^8\)
Sooryamoorthy (1993) identified the significance of certain socio-economic and geographical variables that have an enhancing role in the new trend of consumerism in Kerala. Developing an operational definition of the concept of consumerism he empirically tested the relevance of the chosen variables at the micro level. The study pertained to lower and middle-income classes and was based on data collected from households. The per capita expenditure classification showed that 80% of the population fall under the broad per capita monthly expenditure class of Rs.101-600 and the rest above Rs.601. Consumption items like beverages, refreshments and processed food, clothing and footwear are chosen for the analysis and expenditure incurred on these items were analysed to find the influence of independent variables namely income, occupation, educational standard and geographical factors. It was found that the role of the independent variables on influencing the expenditure pattern of the respondents varied from item to item. The variables income, occupation and education were found to enhance the expenditure on all the chosen items. Except in the purchases of beverages, refreshments and processed food, the level of consumption in both rural and urban areas of Kerala remains similar. The study identifies the middle-income class, the employed in regular salaried jobs and the well educated as the category of consumers who spend conspicuously on the items under study.

Burney (1992) examined household consumption patterns in Pakistan by estimating three different functional forms of the Engel curve, namely linear, double logarithmic, and Working-Lesser, for six different income groups. Using household level data for the year 1984-85, the study focused on the impact of household-size and household composition on expenditure patterns. Estimates indicated that the coefficients corresponding to total household expenditure follow a cyclical pattern across different income groups. This was explained in terms of quantitative as well as qualitative changes in the consumption basket. It also pointed to the existence of economies of scale in the consumption of some of the commodities. The economies of scale were not only different across commodities but also vary widely across income groups. The evidence further highlighted that, in general, the composition of the households did not had a significant impact on the consumption patterns in Pakistan.
Sen (1990) analysed the trends in consumption expenditure for the period 1950-51 to 1982-83 in the Indian economy using NSS data for total consumption expenditure. The long-term tendency at constant prices for all expenditure classes is almost constant though the amplitude and frequency fluctuations increase as we move to higher expenditure groups.\footnote{11}

Ravallion (1990) measured the effects of shifts in budget constraints or household parameters on under nutrition using household level data collected by National Socio-Economic survey, the Central Bureau of Statistics on calorie consumption, incomes, price, and other household characteristics. The study estimated the calories intake functions and used them to stimulate the effect of income changes on various measures of calorie under nutrition.\footnote{12} From the results it follows that inter household variation in reference to calorie consumption was due solely to differences in the price and income parameters of household budget constraints. Even though rural-urban inequality tended to be pronounced; the urban, rural sectors have similar levels of calorie under nutrition.

Minhas' (1990) study for the period 1970-71 and 1987-88 used NSS data and adjusted price relatives of consumer price index series for agricultural labourers of rural areas and the combined price relatives data of consumer price index for industrial workers and for non-manual employees for urban areas. For rural and urban India taken together the incidence of poverty declined from 56.3% in 1970-71 to 48.1% in 1983 and further to 45.9% in 87.88.\footnote{13}

Birchenhall (1989) concentrates on the seasonal structure of quarterly non-durable consumers expenditure. The study was concerned with empirically investigating the seasonal nature of aggregate non-durable consumer's expenditure in the United Kingdom for the period of 1963-84.\footnote{14} The seasonal consumption model was based on a short-run process of adjustment to a long-run or desired level of consumption. Evidence had been presented that the long run income elasticity of consumption and its rate of adjustment to equilibrium both vary seasonally.

Dissanayake et.al (1988) estimated systems of Engel curves for the SriLankan economy considering expenditure on all non-durable goods and with
special importance to the important category of food expenditure. The study analysed cross section per capita household expenditure using the data of 1981-82 survey reported by Central Bank of Ceylon. The study has estimated complete Engel systems for non-durable expenditure categories and also individual food sub categories.15

Behrman et al (1987) explored the case of malnutrition and compared directly reduced form elasticity estimates for major food expenditure with those for major nutrients. The study has made use of data from International Crop Research Institute. The findings showed that increase in income will result in substantial improvements in nutrients intakes.16

Mukhopadyay (1987) examined the nature of inter-state differences in the expenditure patterns of rural households. The analysis covers three item groups viz cereals substitutes, all food and all non-food.17 To examine the nature of inter state differences in expenditure patterns pair-wise analysis of covariance test has been applied to item-specific Engel curves for each pair of States. The state-wise average elasticities for different items have also been examined. On obtaining significant inter-state difference in item specific expenditure patterns investigation had been made to examine how far the observed differences in expenditure patterns could be explained by the variations in the item-wise cash expenditure patterns across states. The study reveals that the expenditure patterns of rural households in India for cereals and cereals substitutes and all food items as reflected by Engel elasticities and ratios are considerably different across states.

Gupta (1986) examined the aggregate consumption behaviour and trends in consumer expenditure using C.S.O. estimates of private final consumption expenditure for the time periods 1950-51 through 1978-80. The study applied the Ordinary Least Square to estimate various parameters of different consumption functions.18 M.P.C. had been found to vary between 0.84 and 0.90 for the reference period of 30 years. The MPC's are found to be very high for food items relative to those of non-food items. The computed elasticities indicate that food items were necessities while most non-food items behave as luxuries and semi-luxuries. The estimated equations show the unexpected positive effect of prices on consumer expenditure on non-food items. The
food items had negative price elasticities. Sectoral distribution show that MPC declines with sectoral shifts in favour of agriculture.

Savant (1982) has made an assessment of relative position of the extent of poverty by analysing the state of nutrition in different states of India. The assessment of extent of under-nutrition and malnutrition was based on the state wise information relating to the intake of calories and proteins given in the NSS report 26th round. In defining poverty-level-income separately for different states the study noticed absence of uniform pattern of consumption behaviour over different levels of prices of the specified commodities faced by consumers in different income groups with in the same region. Besides the composition of commodities varied over the states and even over the income classes with in a state. The results showed that most of the states had about 20 to 40% of their population severely under nourished.

Sharma (1982) assesses the extent of rural poverty by applying the normative approach to the National sample survey consumer expenditure data of 1972-73 and 73-74. By deflating/inflating the poverty line expenditure he worked out the value of poverty index per capita per month to be Rs.46.50 and Rs.55.86. The extent of rural poverty on the basis of the value of poverty index for 1972-73 and 73-74 has been calculated equal to 31.53% and 47.01% for the two years respectively.19

Mukherjee and Kishore (1982) by using the NSS data of consumer expenditure for the year 1973-74 calculated the value of minimum calorie requirement that is 2400 calorie per person per day to be Rs.37.54 per capita per month and the percentage of rural poor falling below this minimum was worked to be 45.65%.20

Joher et.al(1982) analysed consumption pattern to estimate expenditure elasticities of demand for different commodity groups. Using the data from NSS reports pertaining to 21st and 28th rounds the study examined the inter-regional and inter-temporal variations in consumption pattern.21 The study has experimented with three forms of Engel functions namely linear, semi log and double log for all commodity groups. Covariance analysis has been applied to study inter regional and inter temporal variations in the consumption pattern. The study showed that the expenditure elasticities of demand for non-food items to be almost double than those
of food items. With in the food group relatively high elasticities were observed for quality food items viz meat, fish etc. With in the non-food group the expenditure elasticities for clothing, durables etc. are more elastic than for fuel and light in both areas. Both rural and urban households exhibited changes in their consumption behaviour between two periods. Also tastes and preferences have been found to change significantly during the two periods.22

Adam (1980) examined poverty based on house budget survey data budget shares for four groups of commodities and household demographic attributes. Expenditure on consumption per equivalent adult is considered as individual welfare measure. Household equivalence scales were estimated using quasi-exact scales trans logarithmic model. Poverty indices were calculated to examine poverty gap, social ability to eliminate poverty by income transfers and inequality among poor. The study used head - count ratio defined as proportion of households with equivalent expenditure below poverty as poverty measures.23 Poverty indices have been calculated for selected socio - demographic groups. A significant change in poverty were noticed with persistent poverty resulting for pensioners, farmer’s and low educated persons.

Saha (1980) presented estimates of Engel elasticities for 101 items of consumption separately for rural and urban India using NSS budget data. Iyengar’s (1960-64) method of estimation based on the use of generalized concentration curves had been used along with method of weighted least squares for finding Engel elasticity of items. The estimate seems to vary, though slightly, from one method to the other. However the ordering of commodities on the elasticity scale is found to be approximately the same by all methods.24 An inter temporal comparison of elasticities over three different NSS rounds found the Engel elasticity to be more or less stable across NSS rounds.

Many studies have examined the time trends in inequality in the distribution of per capita consumption expenditure in both Urban and rural sectors in India. In a detailed study Radhakrishna et.al (1976) found inequality in nominal consumer expenditure to have declined in the urban sector during 1952-53 to 1968-
An attempt at relative behaviour of consumption levels and their distribution have been made by Chatterjee and Bhattacharya (1974), which traced the relative movements in the per capita nominal consumption levels in rural and urban sectors for the period 1951 to 1967-68. Chatterjee and Bhattacharya (1974) examined disparities in rural level of living. The concentration curves of the NSS round-wise size distributions of populations by per capita total consumer expenditure were studied for rural and urban India and their shifts over time. Analysis of disparities in the average per capita household consumption between rural and urban India overtime revealed reduction in disparities in the size distribution of per capita consumption expenditure. Between state differences in per capita household consumption had been analysed using Kuznet's index and Lorenz ratio. The study showed that no clear trend prevails in rural urban disparities in nominal consumption levels.

Vaidyanathan (1974) computing state-wise Lorenz ratios of consumption on the basis of NSS data for 4 rounds found that the extent of inequality had no strong consistent relation to per capita consumption nor were the relative levels of inequality stable overtime. The point about the differences in estimates of inequality between those based on real consumption was made first in the rural Indian context by Vaidyanathan (1974). Which was then proved valid in both rural and urban contexts by Radhakrishna et.al(1976). These two studies cover the period from 1952-53 to 1968-69.

Bhattia (1974) using data of Labour Bureau studied consumption pattern of industrial workers. The average monthly income per family of industrial worker for the state and average monthly expenditure were estimated. The average monthly income was found marginally higher than average monthly expenditure. Consumption expenditure for food items consolidated 60% of total consumption expenditure.

Chatterjee (1974) constructed indices of consumer price differentials between rural areas of different states in India using household budget data from NSS. The household budget data were used for estimating weights as well as average prices of 56 items of the household budget Laspeyres, Pasche's and Fisher's indices.
were computed for comparing the price level in each state with that in every other state and all India.  

Vaidyanathan (1974) has studied the pattern of inequalities in per capita consumption levels at the national level by principal occupational and land holding categories and by household size. The changes in the degree of consumption inequality by states and all India over the period 1958-59 to 1967-68 have been examined. Using Lorenz ratio the study has measured the extent of inequality in rural living standards. A comparison of the estimates of consumption inequality in rural areas as from the Rural Saving Survey of NCAER and those from the NSS data have been carried out. The over all inequality coefficients for land holding found to be much higher than for consumption, that is the disparities in living standard were appreciably less than the disparities in land holding. Multiple regression analysis used to examine the relative influence of land holdings and family size on per capita consumption found a positive correlation between land holdings size and per capita consumption and also a negative correlation between family size and per capita consumption. Study of inter state disparities in consumption expenditure shows that average per capita consumption is below the national average in seven states in India. The inequalities in aggregate income and consumption were influenced by the distribution of income from animal husbandry and also non-agricultural activities.

Panikar (1972) has worked out a series of models for deriving minimum cost diets taking into account the local availability and use of food items. To him a nutritionally adequate diet suggested by the National Advisory committee for the whole India is not likely to be very useful basis for formulation of economic policy relating to the eradication of poverty or malnutrition. Panikar (1979) conducted study of agricultural labour households in Kerala to examine the level of employment and food intake among them. The study found that the incidence of under nutrition and malnutrition is a reflection of a very low level of income, which in turn is due to inadequate employment opportunities.

B.M. Mahajan (1971) examined the validity of the assumption of inter-regional homogeneity of consumer behavior with in the compass of regional household consumption data by analyzing the structure and pattern of consumption
for 6 population zones in India using NSS data. Per capita formulation of log linear Engel curve has been fitted to data pertaining to rural and urban communities and the method of weighted regression analysis with the number of persons in each class as weight has been used. The results revealed considerable inter-regional variations in the structure and pattern of consumption. 31

Murthy (1971) analysed consumption pattern utilizing NSS data on consumption. Temporal stability of Engel curves were noticed for almost all the commodity groups in rural sector with an exception of 'other non-food'. In the urban sector the instability of parameters of Engel curve is noticed for almost all the commodity groups with an exception of milk and milk products, food total and clothing. 32

Mehta (1971) by using the NSS data analysed the differences in the elasticity of consumption expenditure of different commodities with respect to income groups in rural and urban. India The expenditure elasticity except for fuel and light was found more in rural areas than in urban areas. The expenditure elasticity of food grains decreases with increasing total expenditure in urban areas. Elasticities for different items showed interesting contrast in rural and urban areas. 33

NCAER estimated elasticities of demand for selected agricultural commodities after conducting an all India survey on consumer behavior in the late fifties. They used the estimated elasticities of demand for demand projections. 34

V.M. Dandekar and N. Rath (1971) used NSS consumption expenditure data in their study of poverty in India and defined poverty line as the expenditure at which average calorie intake was 2,250 calories. As per the study the highest incidence of poverty was seen in Kerala. 90.75% of rural population was found under poverty in Kerala. Kerala also found to have topped in urban poverty with 88.89%. 35

Chakravarthy et.al(1970) by using data of village surveys examined whether the absolute income level of the household or its income trend is more significant in determining its consumption and investment pattern. They concluded that investment has stronger relation with the income trend than with the income
level. The expenditure on durable consumer goods has stronger affinity with both the income level and income trend. Borrowing and sale of asset also have a stronger relation with trend than with the income level, perhaps to bridge the gap between rising consumption standard and stagnant income. \(^{36}\)

Bardhan (1970) attempted to assess the change in incidence of poverty between 1960-61 and 1967-68 and concluded that proportion of population falling below a specified minimum consumption standard has increased sharply. \(^{37}\)

Minhas (1970) portrayed an opposite conclusion and found that the proportion of population below a specified minimum has consistently declined over 1960's. The divergent conclusion appeared to be partly a reflection of differences in the methods of adjusting for price changes, but primarily due to divergent estimates of changes in real consumption. \(^{38}\)

The incidence of rural poverty in different parts of India over time had been a matter of great interest. Minhas (1970) and Vaidyanathan 1974 have tried to reconstruct the distribution of the entire population by levels of real consumption and then estimate the population falling below the poverty line, also defined in prices of the same base year. Vaidyanathan's study showed that in explaining inter-state variations in consumption inequalities, distribution of land holdings is an important variable and proportion of rural income from animal husbandry is not a significant variable. Proportion of irrigated area is inversely related to consumption inequalities. On the other hand in an attempt to identify the rural poor, Minhas (1970) found that out of the 164 million people below poverty line in 1960-61, around 60 million belonged to rural labour household and of the rest a major chunk belonged to cultivator households with small operational holdings.

Ojha's study on poverty (1970) looks at both rural and urban poverty for 1960-61 and at rural poverty only for 1967-68. Adopting a calorie norm of 2250 per capita per day for an average Indian, he assumed that 66 percent of this must be obtained from food grains, cereals and pulses in Urban areas, 80 percent was the corresponding figure for the rural sector. These percentages worked out to 518 g.m and 432 g.m per person per day in rural and urban areas respectively Ojha adopted
these standards for studying the incidence of poverty and found that nearly 51.8 percent of all persons in rural areas and 7.6 percent in urban areas fell below the poverty line. For the year 1967-68 he concluded that 70 percent of the rural population were below the minimum level of food grains consumption.39

Changes in the distribution of income and consumption over the period 1950-65 have been explored by Mukherjee and Chatterjee (1967). It sought to assess trends in inequality on basis of NSS data as well as the behaviour of inter sectoral disparities as revealed by national income estimate. Mukherjee and Chatterjee concluded that “..........reckoned at current price, there appears to be some reduction in the disparities of the distribution consumption expenditure during the period covered both with in urban and rural areas and for the country as a whole”. However in rural areas they found a tendency for disparities to increase.

A study by the distinguished study group appointed by the government of India (1962) recommended that a per capita consumption of Rs.20 per month (Rs.240 per year) at 1960-61 prices (excluding expenditure on health and education) should be deemed as the nationally desirable level of consumer expenditure.41

Iyengar (1960) computed Engel elasticities from concentration curves using NSS data.42 Iyengar (1964) extended the method for estimating Engel elasticities based on grouped data from NSS reports.

H.S Houthakker (1957) compared elasticities of food, clothing, housing and miscellaneous items with respect to total expenditure and family size using data from surveys conducted in 30 different countries. Regression analysis was used. Money expenditure was used as the dependant variable rather than quantities used by households. Households were cross-classified by income or total expenditure and family size. It was found that the elasticities of four main items of expenditure with respect to total expenditure as similar (but not equal). And that the elasticities with respect to family size were rather similar (but also unequal) for food and miscellaneous items and irregular for clothing and housing.43 The results were in conformity with Engel’s Law.
A study on consumption pattern in India was made by Roy et.al (1954). Using National Sample Survey data on consumer expenditure, they estimated the demand elasticities with respect to per capita household expenditure.44

Stone analysed the pattern of demand for consumer's goods relating to United Kingdom over the years 1920-38 on the basis of annual data. Investigation on different group's of consumers expenditure, quantities bought and prices paid were conducted. To analyse demand the study has applied Linear Expenditure System, which is compatible with three conditions imposed on demand systems. ie. additivity, homogeneity and symmetry. The analysis of a system of size commodity group, among which the total of consumer's expenditure per equivalent adult has been divided, is provided.45

2.3 Studies on Consumption Pattern of Scheduled Castes

This section gives a brief review of the few available related studies on different social groups, communities or castes.

Akbay (2001) analysed food consumption patterns of socio-economic groups in the State of Ankara. The differences in price and income elasticities of major food demand among high-, middle- and low-income households and also the effects of education, employment, household size, and other demographic variables on food demand pattern were analysed. This study analysed food consumption pattern of households by using two steps estimation procedures for system of equation. In the first stage, Inverse Mill Ratio was estimated by using Probit regression model. Then, these variables, which represent the unobservable influences on the participation decision, are included into log-linear demand system to estimate household food demand elasticities. Data for this study came from the 1994 Household Consumption Expenditure Survey, which was conducted by the State Institution of Statistics, Ankara.46

Lanjouw et.al (2001), estimated determinants of per capita consumption for Scheduled caste households in U.P and All India, using regression model for N.S.S.O data from 50th round. Results indicate that while about half the difference in
welfare between Scheduled castes and others could be attributed to differences in asset holdings, a roughly equal share was due to differences in returns to asset stocks. Not only did Scheduled caste households own less land, they also experienced lower returns to higher education as compared to other households.¹⁷

Rajuladevi (2001) using primary data analysed caste differences in food intake between backward castes and Scheduled castes in four different agricultural regions in Tamil Nadu. The study identified variations in quality of life between Scheduled castes and Backward Castes households. The composition of diet was found related to cropping pattern. Lack of sources and purchasing power, forces Scheduled castes to use nutritionally poor substitutes for others. The results highlighted the linkage between poverty, deprivation and ill health.¹⁸

Wankhede (2001) examined the phenomenon of dominance of particular castes in the State of Maharastra which is considered to be one of the most advanced state regarding educational progress of the Scheduled castes, using Census data. The study analysed the existing educational variations among the Scheduled Castes of Maharashtra. It was found that Scheduled Castes continue to be backward in terms of the quantity and quality of education they receive. Their overall educational backwardness is attributed to poverty, lack of easy access to schools, discrimination in schools, practice of untouchability etc.¹⁹

Kozel (1999) studied poverty profile of Bihar employing field study results. Links that exist between social identity and poverty were identified. Poor households were identified as those at the low end of the caste hierarchy especially belonging to Schedule Castes. It was found that the major factors that explain the gap in living standards between Scheduled caste and majority households are the fewer private assets as well as lower levels of human capital Social identity places a disadvantage to Scheduled castes in interactions with higher castes. It was found that this stigma cancel the advantage conferred by higher education in the competition for high paying jobs in rural areas. In urban sectors it was found that the barriers linked to social identity began to break down as poor households move out of the traditional economy. Further returns for highly educated Scheduled Caste workers were found to be clearly lower than those for well-educated workers from majority households.²⁰
Saggar (1994) analysed consumption expenditure pattern to examine inequality and poverty differences among SC's and STS and other households, rural urban disparities and inter-state variations using data from NSS. Consumption inequalities in the four States were captured in the study by employing alternative methods such as Gini co-efficient, Atkinson's index etc. The monthly per capita consumption expenditure of SC's and ST's were found considerably less than that of other households for all states in both rural and urban areas. The MPCE was found marginally higher for the SC's compared to ST's except in case of rural Bihar. As per the results of the study the rural urban difference in consumption standards exist. The MPCE of non-SC/ST households in all four eastern states were below the all India levels with an exception case of urban West Bengal. As per the results concentration ratios for expenditure on non-food items was much higher than on food expenditure. Comparison of concentration ratio for SC and ST population with those for other household showed that in most cases inequality was higher in General population.\footnote{51}

Mustafa (1993) employed input output analysis to examine saving consumption and investment behaviour by various social classes. Household consumption differences across social groups were relatively less pronounced for basic items like food and clothing, but the contrast become sharper for industrial goods, energy, pharmaceuticals and service sectors like education and health housing etc. The items of consumption like health and education that had implications for enhancing the physical quality of life or augmenting human development index were heavily biased against rural community in general, and poorer sections of the society in particular. Over all there were considerable variation in average household consumption expenditure across social classes.\footnote{52}

Subramanian and Deaton (1991) examined effects of gender discrimination on household consumption pattern, using the household expenditure data from the NSS. Engel curves had been estimated including detailed demographic variables and tested for the effects of gender in the pattern of demand. Substantial gender related effects in the consumption pattern of households for food and non-food groups were examined. The relevant household characteristics considered were occupational pattern of the head of the household, which included (1) those with the
head self employed in non-agricultural activities, (2) agricultural labourers, (3) non-agricultural labourers and (4) self employed in agriculture. Religion of the household including (1) Hindu (2) Muslim and dummy indicating that household head belongs to scheduled caste or tribe also included. The results indicated that scheduled castes and tribes consume less wheat and more coarse cereals. In facts the same was true for both agricultural and non-agricultural labourer households of the same size and same budget. Households with more adult women than men, consume more of these basic foodstuffs. The consumption of meat was found much higher among Muslim households and those from Scheduled castes and tribes. At the same total budget, larger households substitute towards sugar, fruits and vegetables and away from milk. Medical expenses, like educational expenses was a luxury good. For analysis of data weighted scores, transformation matrix, poverty line, Engel rations etc. were employed. Poor levels of living of the population were revealed from low per capita consumption expenditure, high proportion of persons below poverty line and high food share. The findings revealed that addiction to liquor and intoxicants was the primary cause for their economic backwardness, social, degeneration, land alienation and even sexual exploitation of the women.

Kunhaman (1989) analysed the reasons for the inter-regional variations in the levels of socio-economic development among the hill-tribes of Kerala using secondary data. The study showed significant inter-district variations in the major sources of household income and a positive correlation between per capita income and the average cultivable area per household. Household consumption expenditure was found lower among the tribes of southern districts. Inter-tribe variations in the matter of consumption expenditure show that the tribes with higher household incomes had a smaller proportion of household expenditure on food. There was near uniformity observed in the proportions of household expenditure incurred on clothing and foot wear among various tribes which suggested that the physical appearances of the members of various tribal communities conceals the inter tribe variations in economic well being. The rather high proportions of the household expenditure on intoxicants indicated that addiction to liquor is wide spread among all the tribes under consideration.
NSSO (1987-88) using data from 43rd round analysed the consumer expenditure and employment, unemployment situation of different social groups, including Schedule Castes. It was observed that in rural India 72% and in urban 46% of the scheduled caste households could spend only a minimum of Rs. 160 per month. For the Non-scheduled category of households the corresponding figures were only 54% for rural and 28% for urban. It was seen that literacy rate had increased over the five year period among all the Scheduled Caste males of urban India. Literacy rate was much low among the listed categories of households compared to ‘others’ category. Scheduled castes had the last position in this respect in urban India. Unemployed in principal status was observed to be relatively lower among males of all social groups of rural areas as compared to urban areas. Considering the female population, the proportion of unemployed in the principal status was found to be relatively higher for the scheduled caste households of rural India as compared to others Category of households.\textsuperscript{55}

NSSO (1987) analysed the employment–unemployment situation of Scheduled Caste population using data from 43rd round. The study observed that in rural areas the proportion of households in the lowest expenditure class among Scheduled Castes were 72% and among general households only 57%. In urban India for Scheduled caste the corresponding percentage was 54% and for general households 35%. Examination of the education levels found that in urban India the literacy levels of Scheduled Caste males remained almost stationary. Scheduled castes had the last position regarding literacy as well as the proportion of employed persons in urban India among different social groups.\textsuperscript{56}

Selvanathan (1986) analysed impact of economic growth on the members of scheduled castes along with the socio-economic status of Harijans. By using the Census data of 1961, to 1981 and also using some primary data the study attempted to measure the differential impact of structural change and occupational mobility among Scheduled Castes. More than 70% of scheduled caste male workers were found to be employed in cultivation and agricultural labour. Analysis of land status revealed that land operated by Scheduled Caste households were smaller in area than that of General households.\textsuperscript{57}
Nayak, et.al (1984) examined the level of living of the SC/ST vis-a-vis the non-SC/ST in Karnataka and inequality in the levels of living of the SC/ST and non-SC/ST during 1973-74, 1977-78 by employing the ungrouped NSS data. Also examination of disparities in the levels of education and occupational structure of households in the different groups was done. Comparison of the size distribution of consumer expenditure of the SC/ST with that of the non-SC/ST was carried out. As per the results in both rural and urban sectors the mean consumption of the SC/Sty’s were found well below the poverty line and also wide gap was observed in the consumption levels of SC/ST and non-SC/ST groups. The % of SC/ST in the lower expenditure classes was more than those in the higher expenditure classes. The study observed a general decline in the standards of living of SC/ST though there was a rise in the nominal mean consumption of the groups. The analysis showed that inequality in real consumption was relatively less with in the SC/ST as compared to the non-SC/ST in all cases.:

NSSO (1983) with data from its 38th round analysed the consumption pattern of different socio-economic groups especially of Scheduled castes and Scheduled tribes in India. The results presented provided a firm basis for assessing their levels of living. In the distribution of households by MPCE larger percentage of Scheduled caste households fell in lowest MPCE classes. Their percentage of expenditure on food items were found much higher than households belonging to other social groups and regarding non-food items the reverse was found true. Analysis of MPCE of upper MPCE classes showed that scheduled castes belonging to upper MPCE classes show close similarity in their consumption pattern to that of the general households.

Report (1982) of the study on the socio-economic conditions of Scheduled castes Scheduled Tribes conducted by the Commission (1982) appointed by Government of Kerala to evaluate the progress achieved by the various castes and tribes in the State found inter-community and regional imbalances even among Scheduled castes. The overall living standards of the Scheduled castes in the State were found to be much below that of general population. Education, income and occupation standards were found very low for them. Besides health and nutritional
standards were found to be very low for Scheduled castes in Kerala. Their housing conditions and level of savings were found very poor. Most of the SC households were found living on cereals, tubers and other cheap food. The study showed that the low-income levels of the households compel them to remain in the low level of living. Inter district and inter communal variations were also observed in the socio-economic conditions of Scheduled castes.\(^{60}\)

Saradamoni (1981) analysed intra-caste and inter-caste differences in educational employment and land owing status of a village population in Kerala. With the objective to find out what caused deprivation, whether caste or economic ability especially among the Pulayas, among the scheduled castes. Households were classified on the basis of caste as well as occupational categories.\(^{61}\) Taking all Scheduled castes together 68% were found to follow traditional occupations. Illiteracy was found to be low among women and lower socio-economic categories. Analysing of consumption pattern showed that Pulaya agricultural labours spend less on food or other items of consumption than Pulaya other occupations categories. The labour households have not succeeded in securing regular employment. The poor Scheduled caste households had not benefited from the reservation policy and a section of the Pulayas remain deprived, weak and backward predominantly because of economic and not social factors. Distribution of land, and other assets were not favourable to the poor including agricultural labours, who for generations had tilled and cared for land owned by others. The land reforms with their series of amendments and beneficiary clauses have not helped them become economically stronger.\(^{62}\)

2.4 Theoretical Background

Consumption being the most fundamental aspect of economic activity; it is not surprising that the study of consumption behaviour has occupied a pre-eminent position in economic science. The study of what, how much and when individuals consume had been the concern of economists. This is not surprising for the consumer occupies the centre stage in economics.
24.1 Consumption Hypotheses

Thorstein Veblen (1899) initiated the study of consumption as a social phenomenon and of the way individual tastes are influenced by others. Veblen clarified the two major means by which the relatively small leisure class extended its influence over society through its tastes. First, refined or cultivated taste became associated with distance from the world of work; objects suggesting practical necessity could be dismissed as cheap. Second, the process of emulation, by which each group seeks to copy those above itself, extended conspicuous consumption and upper-class standards throughout society.

Max Weber (1920) introduced the notion of a “status group” sharing a common lifestyle. This provided a wider framework for analysing class and social differentiation, incorporating criteria based on consumption patterns rather than just property ownership and incomes.

Marcel Mause (1925) saw reciprocity in exchange and consumption of goods as the social glue binding individuals and communities to one another.

John Maynard Keynes (1936) mainly looked at consumption from a macroeconomic perspective. He saw aggregate consumption expenditures as important components of national income. Keynes argued that with rises in income, consumption would also increase, but not as fast. When income rises the marginal propensity to consume would go down as consumer needs are satisfied. Keynes regarded effective demand by the consumer as the principal vehicle of economic growth.

The impossibility of observing and measuring the utility of consumption was an awkward feature of neoclassical theory from the start. Economists sought to escape this embarrassment by showing that the theory could still be derived without actually measuring utility. Paul Samuelson’s revealed preference hypothesis (1938) was a classic example of this thinking. Samuelson believed that no utility, function, cardinal or ordinal, was required; it was enough for consumers to reveal their preferences through their purchases in the market place.
The issue of copying the neighbours in consumption behaviour—keeping up with the Joneses—was taken up by James Duesenberry in the late 1940s. The notion was that individuals' preferences were influenced by the consumption preferences of admired neighbours, so they try to keep up. The relative income hypothesis of Duesenberry (1949) provides the analytical framework for this view. Duesenberry considered the major determinant of consumption to be relative income—not absolute income, as proposed by Keynes.

Tibor Scitovsky (1976) distinguished between comfort and stimulation and emphasized in particular the role of culture in generating the durable pleasure from stimulation. He emphasized the need for acquiring "the consumption skill that will give access to society's accumulated stock of past novelty and so enable to supplement at will and almost without limit, the currently available flow of novelty as a source of stimulation."

Mary Douglas (1979) describes consumption of goods as a medium of communication particularly central to the establishment of people's personal identity and social standing.

Amartya Sen (1985) focuses not on the ownership of commodities but on the uses to which they can be put in extending people's capabilities. Commodities were important for enriching human lives, but their effectiveness depends on personal characteristics and social circumstances, variations in which contribute to inequalities in a society.

Consumption habits are determined by a complex set of socio-economic, cultural, religious and ecological factors. There have been various attempts at both conceptual and empirical levels to explain the differences in consumption pattern and to measure the nature of changes attributed to casual variables.

In the history of demand analysis two threads, related but separable, were discerned. These were first, the work of economists interested in the discovery of general laws governing the operation of markets, particularly agricultural markets; and second the work of those, originally statisticians, interested in the psychological
laws governing what came to be called consumer preference. Brown and Deaton (1972) held the view that this dichotomy continued to characterize the subject.

Empirical research had produced more sophisticated demand equations while, at the same time; theoretical economists and mathematicians enormously increased the knowledge of the pure mathematics of preference relations. While these two activities were not always in balance, the great strength of empirical demand analysis was the existence of strong foundations, which were drawn upon or modified as practice demanded. This interplay between the theory and reality was perhaps more fruitful in this than in any other branch of Economics.

Of the two strands, the empirical may claim historical precedence in the work of Davenant who published in 1699 a numerical schedule of the demand for wheat derived three years earlier by Gregory King. In the eighteenth century, Lloyd gradually sorted out the independent influences of demand and supply on market prices.

Meanwhile it claimed that in 1730 Daniel Bernoulli laid the foundation of preference theory, by writing that “any increase in utility, which is inversely proportional to the quantity of goods already, possessed. Later in the nineteenth century, the specific elements of preference theory in economics were constructed by various writers whose aim was to provide a secure automatic foundations for the model of market equilibrium suggested by Smith. An essential part of this was the proposition that demand curves slope downwards, and it seemed acceptable to Mathematical economists such as Gossen, Jevons, Walras and Edgeworth, to rest this proposition on a generalization of Bernoulli’s concept of utility. Thus Edgeworth defined a cardinal utility function in which the purchased quantities of each good were arguments and the marginal utility of each good was a decreasing function of the quantity. Edgeworth, however, also originated the concept of indifference curves and Fisher and Pareto were able to establish the essence of the modern theory on the assumption of ordinal rather than cardinal utility, and diminishing marginal rates of substitution rather than decreasing marginal utilities. The scene was then set for a Mathematically rigorous exposition of the theory by Slutsky in 1915.
Throughout the eighteenth and nineteenth centuries, the empirical approach had made little or no progress in the measurement of demand curves despite its early and promising beginning. In large part this was due to the fact that statisticians until late in the nineteenth century did not develop the techniques of correlation and regression. Significant progress was however made in the investigation of the influence of income on consumption patterns, and the credit for this goes to such statisticians as Baxter, Ducpetiase, Dieterici, and Le Play who collected and tabulated family budgets. In particular an outstanding contribution was made by Engel, who in 1857 formulated what turned out to be enduring empirical laws governing the relation between income and particular categories of expenditure.

In the late nineteenth century, the fusion between the theoretical and empirical approaches were found in the writings of Marshall, who was perhaps the catalyst, which encouraged agricultural economists to apply the newly discovered technique of correlation to the analysis of single markets. Marshall’s great contribution was the clarification and elaboration of the concept of elasticity of demand, which offered a precise framework within which numerical measurement of market characterizes.

Serious progress in the econometric study of demand was achieved by agricultural economists in the United States, beginning with Moore, who published a number of important studies between 1914 and 1929.

By 1939, most of the strengths and weaknesses of what we may call Classical demand analysis had been probed and most of the techniques still in use had been discovered. We may characterize this classical approach as consisting of the application of variations in least squares single-equation fitting, to both time-series and cross-section data, of market models based as far as possible on the theoretical results of Slutsky (1915), Allen and Hicks (1934) and Hicks (1936). Much of this work, together with a great deal of empirical analysis, was drawn together by Schultz in 1938. Since then, there were a number of important developments. On the theoretical side, many of these derived directly or indirectly from an earlier stimulus, Samuelson’s introduction in 1938 of the language of Revealed Preference Theory. Though this did not succeed in the lead to a new theory of consumer demand, it did
succeed in increasing our understanding of the properties of the old. The debate which eventually established the equivalence of the two models yielded a number of important by-products. Not least of these was the solution in 1950 by Houthakker and Samuelson of the long-standing consistency problem, or the derivation of conditions under which demand functions may lead back to a preference mapping. Furthermore, as Houthakker has pointed out, the discussion of revealed preference focused much more attention on the observable consequences of demand theory.

While the questions to which the classical approach addressed it were of the type "what is the income or price elasticity of good X?" More recent investigations posed and began to answer some more fundamental questions. These were basically questions of methodology for example how should demand functions be specified? What is the best way of allowing for changes in prices? These were questions of how to go about measuring elasticities rather than questions about what numerical values these coefficients should take. In particular attention focuses on the theory of demand and its relevance to applied demand analysis or of welfare theory but as a tool of empirical investigation. These developments did not take place consciously or deliberately. In the first instance it was undoubtedly the development of electronic computation facilities, which made possible the estimation of complete systems of demand equations derived from theoretical considerations. Though the main object of the work was originally the estimation of the parameters of these models, attention was turned rather to the testing of the empirical validity of the models themselves. This latter endeavour, much more difficult of the two, was welcomed not only by those who continually search for new scope to apply more, powerful statistical techniques, but also by those who deplore the uncritical proliferation of models and parameter estimates made possible by the computer.

The problem with which demand analysts were fundamentally concerned were to find out how the demand for a commodity will be after a certain specified variables change. This information is usually required for a specified moment in time and for some aggregate of individuals, either for all consumers or for some subgroup. If we decide to work in per capita terms in order to neutralize change of scale in the population, the problem was to discover how the allocation of the average
budget over different commodities would respond to outside changes. In particular the interest was in the effects of changes in real income, and one should like to allow for the introduction of new commodities and changes in tastes. All this were of considerable importance; the increase in the number of large econometric models and the general increase in interest in model for planning and policy formulation offered a wide area for the positive application of any results, which were achieved.

Consumer expenditure is the largest item in the gross domestic product of most economies and thus the usefulness of disaggregated planning or prediction is likely to depend on its correct allocation. The changing structure of industry over time depends crucially on the evolution of the elements of consumer’s expenditure in response to increasing income while knowledge of price response is an important element in the formulation of fiscal policy or any other type of economic control.

2.5 Review of the Theory of Consumption Behaviour

Consumption is the predominant component of aggregate demand in an economy. The problem of consumption behaviour can be taken up either at the micro level or at the macro level. While these two approaches are now well established, it would be pertinent to mention that the latter approach gained currency in the wake of Keynesian revolution. The importance of consumption function in Keynesian analysis hardly need elaboration.

The micro approach consists of two very popular classes of studies, one dealing with family budgets and the other with market demand analysis. The former analysis is the cross-section relationship between income level and pattern of consumption, as across categories of goods and services, holding other variables like prices constant. The latter on the other hand uses time-series data to analyse the price demand relationship. The alternative macro approach, however, concentrates on the income consumption relationship in an aggregative sense.

The subject was widely discussed in the literature. This section reviews briefly the various developments in consumption theories.
The early developments in consumption behaviour were found in micro-economic theories. To describe the way consumers choose among different consumption possibilities, economists a century ago developed the notion of utility.\textsuperscript{74}

In Micro economic theories the consumption behaviour was derived on the postulate of utility maximization subject to a linear budget constraint that is.

\[
\begin{align*}
\text{Max. } U (x_1, \ldots, x_n) \\
\text{Subject to } x = p_n q_n 
\end{align*}
\]

Where \(x\) means total consumption expenditure

\(p_n\) denotes prices and

\(q_n\) denotes quantities (consumed / demanded)

The Marshallian demand function was described as:

\[
q_i = f_i (x, p)
\]

Where \(q_i\) is the quantity of \(i^{th}\) good.

Speaking broadly two approaches were followed in the analysis of household consumption behaviour, (a) one based on aggregate time series data on quantities, prices of commodities consumed and on aggregate income and (b) the other based on incomes and expenditures of a cross section of individual households in a given period of time. Under the former approach lack of availability of comparable data over a time may in no small measure pose difficulties. A part from limitations of data, the statistical problems may invariably circumscribe the usefulness of such studies.\textsuperscript{75} The future growth of the level and structure of consumption were affected most significantly by income growths but also affected by changes in price structure and by shifts in tastes over a time, due in part to rising levels of living and the availability of new products and in part to the increasing urbanization of population, changes in other demographic features of households like age, sex composition, geographical location, occupation and other distributional changes. The effects of these factors may not be entirely disentangled on the basis of aggregate time-series data. This was because there were likely to be strong time trends in most of them leading to inter correlation over time. And while on the one hand the degrees of freedom obtaining in a time series data were invariably too
insufficient\textsuperscript{76} to allow a proper analysis of a multiple regression model, on the other a simple regression of consumption income may erroneously attribute to income the effects of omitted but correlated variables and in that case it gives valid predictions if and only if all time trends remain unchanged (or unchanged). But this assumption is likely to be less valid in the context of planned development where under some of the relevant variables were changed deliberately in a pre-determined manner.

The second approach was usually called a “family Budget study” This type had a long history dating back to 1857 when Earnest Engel (1821-1896) published a study on the conditions of production and consumption in Kingdom of Saxonny, in which he formulated an empirical law concerning the relation between income and expenditure on food Engel’s law, as it became known, states that the proportion of income spent on food declined as income increased. Its original statement was mainly based on an examination of about two hundred budgets of Belgian labourers. Since that date the law was found to hold in many other budget surveys; similar laws were also formulated for other items of expenditure. So the law found its generalization viz as the level of household income increase the expenditure on different items of the budget have changing proportions, the proportion devoted to the mere urgent needs (such as food) decreased while the proportions devoted to luxuries and semi luxuries increased.\textsuperscript{77}

Assuming that the effects of composition of household are absent and prices are merged into the functional form, the demand function yields,

\[ q_1 = f_1(x, p) \] \hspace{1cm} ........................................(5)

\[ q_1 = f_1(x) \] \hspace{1cm} ........................................(6)

This was termed as an Engel curve and was employed to classify goods into luxuries, necessities and inferior goods. Further, the item-expenditure will increase or decrease with total -expenditure, as total expenditure elasticity (ei) was greater than or less than unity.

Hence

if \( ei > 1 \), the goods were luxuries

if \( ei < 1 \), the goods were necessities,
if $e_i < 0$ the goods were inferior.

From the statistical theory, the demand by a single consumer for each commodity can be written as function of consumer's income and all market prices. If prices were held constant $q_i = q_i \left( \frac{\mu}{P_1, \ldots, P_n} \right)$, expressing demand as a function solely of the consumer's income, a relation generally known as the consumer's Engel curve for commodity 'i'. This relation was taken as the starting point for the analysis of household budgets. A restricted form of demand function was the Engel function. Demand function becomes the expenditure function if the prices were assumed constant. For cross section data pertaining to a point of time prices were usually assumed constant. For the estimation of such functions family 'budget survey' for a single period were used.

Engel investigated and analysed family budget study, which resulted in the relationship showing how consumption expenditure of a particular commodity varies with the level of income of a household. From this, Engel (1857) derived the following main results:

1. Food items account for highest expenditure in the family budget.
2. The proportion of expenditure on food items decreases with an increase in the standard of living of household.
3. The proportion of expenditure on rent and clothing is nearly constant while that on luxury items increases with an increase in the standard of living.

Later in 1895, Engel found that first and third conclusions, as given above, were misrepresentations of the fact while second was repeatedly been confirmed. This second proposition has now become the Engel Law.

Engel Law implies that the rising standards of living (as a result of increasing incomes) will lead to a lower proportion of the consumption expenditure on food (necessary) items, while the expenditure on luxuries increases with the standards of living. The Law, thus, divides the items of consumption into necessary items and luxury items.
The empirical analysis of the Engel Law involves the formulation of the Engel Curve, which can take any of the various functional forms, available in econometric literature. Econometric literature abounds various functional forms—linear and non-linear, etc., which have been used as Engel Functions.

The criteria for choosing the algebraic form of Engel Curve is a complex set of issues and related to the distinction between necessities and luxuries. However, not that necessary and luxury items are quite relative in nature to each other. Therefore, it is difficult to choose a priori any form of the Engel Curve, which may yield better identification of items in two categories.

Hence, the criterion for choosing the Engel Function may not be a matter of an individual’s concern only as being a matter of economic and statistical considerations. Assuming that the effects of other factors such as the composition of household size etc. are absent and prices \( (p) \) are merged into the functional form, then the demand function yields,

\[
p_i q_i = f_i(\mu) \ldots \tag{2.1}
\]

Where

\[
q_i = \text{amount of } i^{\text{th}} \text{ commodity demanded}
\]

\[
\mu = \text{total expenditure (income)}
\]

\[
p_i = \text{price of } i^{\text{th}} \text{ good}
\]

The Engel curve is employed to classify goods into luxuries, necessities and inferior based on the income (expenditure elasticities)

Hence if \( e_i \mu > 1 \), the goods are luxuries

\( e_i \mu < 1 \), the goods are necessaries

\( e_i \mu < 0 \), the goods are inferior

Further, the expenditure on each commodity group will increase/decrease with the increase/decrease in total expenditure if the expenditure elasticity \( (e_i \mu) \) is greater/less than unity. It was interesting to note that this was one of the cases in economics where observed regularities of human behaviour were discovered years before a theoretical framework was developed to explain them.

\[78\]
well into the 20th century that the indifference preference theory of consumer behaviour was developed.

Much of the empirical experiments of various functional forms for Engel curves were made in this field by Prais and Houthakker (1955). Though none of these forms satisfied the “adding up criterion”, yet their theoretical plausibility was not challenged. Working (1943) and later Leser (1963) estimated the form that is consistent with adding up criterion. This relates item expenditure ($W_i$) linearly to the logarithm of total expenditure:

$$W_i = \alpha_i + \beta_i \log x.$$ ................................ (7)

Where $\alpha_i$ and $\beta_i$ are parameters to be estimated and $W_i$ denoted expenditure on $i$th item.

$W_i = 1$, was the requirement of adding up criterion. It was fulfilled, if

$$\Sigma \alpha_i = 1, \Sigma \beta_i = 0$$ ................................ (8)

Now, estimating equation (7) by OLSM (Ordinary Least Squares method), the estimates of parameters $\alpha_i$ and $\beta_i$ will certainly, satisfy equation. (8). This form suggested the goods as luxuries, if $\beta_i > 0$ and, necessities and inferiors if $\beta_i < 0$.

During such course of development in the measurement of Consumer expenditure and behaviour, a model based fully on the theory was used. It was termed as Linear Expenditure Systems. Again if we recall the Marshallian demand function-

$$q_i = f_i (x, p)$$ ........................................ (9)

This relationship was measurable with the help of some suitable function, if the theory was not considered directly here But several difficulties were inherent. If the demand function was formed linearly as:

$$p_i q_i = bix + \sum_{j=1}^{n} bij p_j.$$ ............................................. (10)

The adding up, homogeneity and symmetry restrictions were put algebraically. Then the following form satisfied this theoretical restriction.
\[ p_i q_i = p_i c_i + b_i (x - \Sigma p_k c_k) \] .............................. (11)

Here \( \Sigma b_k = 1 \)

It was not necessary that any \( c_i \) to be positive, the parameters were taken as subsistence values, thus, equation (11) becomes simple to explain. First, necessary expenditure \( p_i c_i \) was made and then, non necessary expenditure was treated as residual \( (X - \Sigma p_k c_k) \) Thus, besides \( \Sigma p_k c_k \) total expenditure was distributed in a fixed fashion on various commodities.

As compared to recent developments in this field, this older method seems to have many limitations. Further testing of the theory has empirically been conducted by Theil (1965)\(^{85}\) and Barten (1966)\(^{86}\) and the model used was popularly known as Rotterdam Model. Lesser also fitted the model to test the theory which seemed to be the extension of the study of Working.

The post war efforts to re-specify the consumption theory are found in macro economic formulations of consumption function. The first serious formulation of the consumption function was Keynes' "fundamental psychological law". It claimed that the consumption increased as income increased but not by as much.\(^{87}\)

This, \( c = f(y), \ 0 < dc/dy \leq 1 \)

The following quotations from the General theory of Employment, Interest and money summarize Keynes' theory of consumption function.

a. The propensity to consume is a fairly stable function, so that as a rule, the amount of aggregate consumption mainly depends on the amount of aggregate income.

b. Men are disposed as a rule and on average to increase their consumption as their income increased but not by as much as the increase in their income.

c. A higher absolute level of income will tend as a rule to widen the gap between income and consumption because the satisfaction of the immediate primary needs of a man and his family is usually a stronger motive towards accumulation, which only acquires effective sway when a margin of comfort has been attained.
The reasons will lead, as a rule, to a greater proportion of income being saved as real income increases.

d. A rising income will often be accompanied by increased saving and falling income by decreased saving, on a greater scale at first than subsequently.88

These and other formulation of Keynes' consumption function were exposed to a major extent for empirical analysis, over last years on consumption behaviour.

A simple linear version of consumption functions is:

\[ C = a + by + u \]

Where \( a > 0, \ 0 < b < 1 \)

'\( u \)' is a random disturbance term, \( b \) is the MPC and it does not differentiate the long run and short run MPC.

The wealth effects are not included. \( c/y \) is the ratio of consumption to income or average propensity to consume (apc), which declined with increase in income.

Standard Keynesian doctrine was first challenged shortly after the Second World War.89 A number of variants of the simple Absolute Income Hypothesis were estimated using various sources of data and the results were far from encouraging and the forecasts very poor. Davis90 analysed the predictive ability of a number of these consumption functions fitted to U.S. data (1929 – 40). The models under predicted the level of consumption that pertained in the post war period.

Earlier work by Brady and Friedman91 on household – budget data demonstrated that although the consumption function has a positive intercept and hence the marginal propensity consume was less than the average propensity to consume, the intercept shifted upwards over time. Previously Smithies92 used a time trend to capture a ratchet – like effect in his analysis of annual series data but the most important results were produced by Kuznets.93 Kuznets demonstrated that over fairly long periods the A.P.C was high and stable, while the MPC was lower than the average, lower in the short than the long run and tended to fluctuate in value,
particularly during the war year. Clearly the Absolute income hypothesis, as, it stood, was in capable of explaining the apparent contradictions.

2.5.1 Relative – Income hypotheses

As a first reconciliation effort Duesenberry (1949) gave his theory of Relative Income hypotheses on the basis of habit persistence hypothesis, stating that the consumption behaviour was interdependent and consumption relations were, irreversible overtime. He argued that consumption of an individual not only depended on his absolute income, that is on his percentile position in the income distributions further the current income but also on the past level of consumptions. It was practically difficult to reduce previously attained higher level of consumption than to reduce the saving. This reflected the cyclical behaviour of \(c/y\).

The theory explained both-time series and cross-section formulations of consumption behaviour. The Relative Income hypothesis was formulated as:

\[
\frac{C}{y} = a + b \left(\frac{y}{y_0}\right), \quad b < 0
\]

Where \(y_0\) was peak previous income. Therefore the predicted values of \(c/y\) from this function were higher in recessions. In the long run,

\[
y_0 = y_{t-1} \Leftrightarrow \frac{Y}{Y_0} = (1+Y) \rightarrow (= some \ constant)
\]

Where \(Y\) was the growth rate of income per unit of time. Thus \(c/y = \text{ a constant term in the long run}\)

2.5.2 The Permanent Income Hypothesis

Friedman 1957 formulated the theory of consumption functions by introducing the concept of permanent income in contradistinction of the Keynesian notion of "measured" income. The underlying hypothesis was that the ratio of permanent consumption to permanent income was independent of the level of permanent income. Let \(Y\) represent a Consumer unit’s measured income for some time period, say a year. This income to be treated as the sum of two components: permanent component (\(Y_P\)), and transitory component (\(Y_t\)) or \(Y_P + Y_t\).
The permanent component was interpreted as reflecting the effect of those factors that the unit regards as determining its capital value, or wealth, the non-human wealth it owns, the personal attributes of the earners in the unit, such as their training, ability personality, the attributes of the economic activity of the earners such as the occupation followed the location of economic activity and so on. It was analogous to the "expected" value of a probability distribution.

The transitory component was to be interpreted as reflecting all "other" factors that were likely to be treated by the unit affected as "accidental" or chance "occurrences". Though they may from any other point of view, be the predictable effect of specific forces, for example, cyclical fluctuations in economic activity. In statistical data the transitory component included also chance errors of measurement.

Similarly let 'C' represent a consumer units, expenditures for some time period and it was regarded as the sum of a permanent component (cp) and a transitory component (Ct) so that,

\[ C = Cp + Ct. \]

Friedman took the expenditure on durables as investment and services as derived from stocks of durables in Cp. 

Accordingly \( Cp = kYp. \)

The function had no intercept term and consequently, Brown (1952) had a new approach to consumer behaviour. He pointed out that customs and habits influence this behaviour. It implies that change in consumption expenditure was comparatively slow to the changes in their income. He took the lagged variable as "previous consumption" instead "previous income".

\[ Ct = a + b Yt + d Ct - 1 \]

But Friedman found lags in consumer behaviour. A clear distinction was made by him between income actually received (measured) and income for actual consumption (permanent income).

A number of empirical tests were applied to permanent income hypothesis on various assumptions for time series and Cross section evidences, by Klein.
Another approach, which was developed simultaneously with, but independently from the Permanent Income Hypothesis, was the Life cycle hypothesis. It was primarily the work of Modigliani and Brumberg and Ando and Modigliani. The typical consumer had to choose a consumption stream to maximize a utility function, defined on present and future consumption, which was subject to a lifetime resource constraint, and which was itself stable over time. The intellectual basis for the work was the same as that of Friedman. The major distinction lay in the choice of time horizon as the human lifetime.

The underlying argument of consumption function was that consumption depend on the resources available to the consumer over his entire life span, the rate of return on capital and the age of the consumer.

Available resources mean existing net wealth plus the present value of all current and future non-property earnings (labour earnings). Accordingly a consumer allocates his income, accounting all his present resources, to maximize his utility over his lifetime. Thus an increase in income will add in consumption to the extend it adds to total lifetime resources. Obviously, the consumption depends on these resource (labour and property) instead on current income.

The Life Cycle Hypothesis has been illustrated as:

\[
C_t = K_t \left[ (Y_L)_t^T + (N-T)(Y_L^*)_t^T + W_t \right]^{10} 
\]

Where
- \( t \) = Time Period
- \( T \) = Present age of the consumer
- \( N \) = Earning period of the consumer
- \( K \) = Constant of proportionality
- \( Y_L \) = Current labour income of an Individual
- \( Y_L^* \) = Expected future income (labour) of the individual
- \( W \) = Net wealth of the individual
Equation (1) can be written as:

\[ C_t = a_1 (Y_t) + a_2 (Y^E_t) + a_3 W_{t-1} \] .................................(2)

(underlined letters are aggregates of individuals) Equation( 2) is in the aggregate form.

Thus, in the formulation of a consumption function, taking consumption as a function, of income and wealth, the long period marginal propensity to consume was determined and it was equal to the average propensity to consume. Several empirical tests were tried on the consumption function to examine the consumption behaviour in the perspective.

The new macro-economic theories of consumption function had wide implications involving various hypotheses, controversial too. During the course of such analysis, following hypothesis seemed worth mentioning. (a) The Normal Income Hypothesis. (b) The proportionality Hypothesis. (c) The Rate of growth Hypothesis.

2.6 The Normal Income Hypothesis

This hypothesis attempted to clarify the vagueness of the basis of new theories that the consumption in a year not only depended on the income in that year but also on the life-span resources in order to maximize the utility rationally. But future is always uncertain and rational behaviour in uncertainty seems misleading.

The hypothesis was that the current income \( Y \) of a consumer affected consumption \( C \) through its effects on normal income \( Y \), thus.

\[ C = \beta(y) \]

Here \( \beta \), independent of current income and assets, and, \( Y \), the normal income of consumer's remaining life span.

Future uncertainty will, of course, affect the planned consumption widely, but whether it will affect the current income and so the current consumption, is important to analyse. That is the hypothesis may provide some rule for steady incomes for people while some may talk of rational behaviour for variable incomes for people.
2.7 The Proportionality Hypothesis

This hypothesis was related with $\beta$, the slope of the consumption function. The new theories said that the consumption function would be a straight line passing through the origin. The hypothesis was equivalent to saying that the consumption was proportional to the normal income for an individual consumer. This hypothesis seemed to be an integral part of the new theories, but it raised several doubts too.

The Normal income hypothesis seemed independent of this hypothesis. Empirical evidence could also not favour the hypothesis.\textsuperscript{104} Further, Friend and Kravis (1957)\textsuperscript{105} gave a contrary argument challenging proportional relationship. In the same direction, several empirical inferences were drawn which created hostility due to Proportionality hypothesis.

2.8 The Rate of Growth Hypothesis

This hypothesis was pertaining to the long-period equilibrium and said that aggregate saving was influenced by the changes in population structure and in per capita real income. In case these factors were steadily changing, the part of aggregate income saved was proportional to the rate of growth of aggregate real income.

Modigliani and Brumberg (1953)\textsuperscript{106} have investigated favorably such defined relationship in the long-period. This hypothesis needed some reservations to explain the long-period consumption function, however, the rate of growth was the basic factor to determine aggregate savings/income ration in the long period in any economy.\textsuperscript{107}

Further, Modigliani and Brumberg’s evidence hardly favour Proportionality hypothesis and it seemed difficult to conclude about the shape of the individual consumption function from the observed long-period aggregate consumption function.\textsuperscript{108}

Economic research in the 1980 and 1990’s had led to more revealing test of the empirical works of Ando, Modigliani and Friedman and had raised puzzling new questions. Three strands of the new research were particularly important. The use of rational expectations to measure future income prospects, the analysis of data on
the histories of thousands of individual families and case studies of particular
economic policy “experiments”.

NOTES AND REFERENCES


76. Note: This is generally attributed to the lack of comparable time-series data which may for example arise because of shifts in tastes over time, arrival of new products, differences in coverage of consumers at different points.


88. Ibid.


106. Opcit Modigliani, F and Brumberg, R.E, P. 11


108. Opcit Gupta Anil, P. 56