CONSUMPTION PATTERN AND EXPENDITURE ELASTICITIES – AN INTER-STATE ANALYSIS

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Dedicated to

My Parents

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CERTIFICATE

Certified that the Dissertation entitled **"CONSUMPTION PATTERN AND EXPENDITURE ELASTICITIES – AN INTER-STATE ANALYSIS"** embodies the work carried out by **Anoop Kumar Satpathy,** in the Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, New Delhi. This is a bonafide work and has not been submitted either in part or in full for any degree or diploma of any University or Institution. We recommend that this Dissertation may be placed before the examiners for evaluation.

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INTRODUCTION

Consumption offers people objects to incorporate into their lives and their presentation of self, like clothes and furnishings. It is the sole end and purpose of all production. A man does not by 'nature' wish to earn more and more money, but simple to live as he is accustomed to live and to earn as much as is necessary for that purpose. Attending this minimum consumption level is not the sole quest of the people in general, but that of the government of all countries of the world in particular. Hence, here lies the significances of consumption studies in planning and development

On The Scope and Content Of Consumption Economics

Micro-Economic theory of consumer behaviour was synthesised by Alfred Marshall towards the end of nineteenth century from the ideas of classical economists like Bentham. Marshall identified consumption with the demand and was primarily concerned with the relationship between consumer choice making and the determination of market prices. The above theories of consumer behaviour was based on the concept of utility. But the empirical impossibility of measuring utility in cardinal numbers caused a cardinal utility explanation to lose favour. An ordering approach, called indifference analysis, has guided much favour especially since J.R. Hicks gave it new impetus by his 1939 exposition in "value and capital". Thorstein Veblen an institutional economists in his book, "The theory of Leisure class" argued that, changes in consumption occurred through imitation of the

consumption patterns of the leisurely class which is noted for its conspicuous consumption.

The relationship between aggregate consumption, aggregate saving and aggregate income, generally termed as the consumption function has occupied a major role in economic thinking ever since J.M. Keynes made it a keystone of his theoretical structure "General theory of Employment, interest and Money". In his words, "the fundamental psychological law upon which we are entitled to depend, with great confidence both a priori from our knowledge of human nature and from the detail facts of experience, is that men are disposed as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income".[1] This phenomenon he called "the marginal propensity to consume", which is positive but less than unity. Keynes referred to the proportion of total income allocated to consumption expenditure as the 'average propensity to consume". He also took it for granted that current consumption expenditure is a highly dependable and stable function of current income.

Theoretical interest stimulated much empirical work to test the hypothesis put forward by Keynes and derive consumption function. Numerical consumption functions were estimated from two kinds of data - time series and budgeted data. Both the sources of data invariably corborated and continued the hypothesis, producing a very high goodness of fit, with current income accounting for the bulk of the variation in consumption function, the average and marginal propensity to consume being less than the average propensity to consume. Hence, it was

[1] Keynes John Maynard, *The General Theory of Employments, Interest and Money*, 1936, p. 96.

confirmed that current consumption expenditure was highly correlated with income. However proportion of income consumed declines with the rise in income,that means saving increased with increase in income.

Doubts about the adequacy of this hypothesis arose because of its inability to reconcile budgeted studies on savings, with observed long run trends. Kuznets[2] observed in 1946 from the estimate of saving in United States for a period since 1899 that the aggregate saving ratio virtually constant, despite the fact that incomes rose substantially in this period. According to his estimate the ratio of consumption expenditure to income was decidedly higher than the marginally propensity that had been compiled form either time series or budgeted data. Examination of budgeted studies for earlier periods strengthened the appearance of conflict.

The conflict of evidences stimulated more complex hypotheses. Dusenbery, Brady, Friedman & others attempted to explain this inconsistency on the basis of budgeted data by critcising the fundmental assumption of aggrigate demand theory that (i) every consumer's behaviour is independent of that of every other consumer (ii) consumption relations are reversible over time. D. Brady and R. Friedman, formed and tested a relative income hypothesis and found that, ".... a tendency towards a stable relationship between the percentage of income saved and the relative income position among the families of the same size...."[3] Dusenbery[4] based the hypothesis on a theoretical structure that emphasises the desire to

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[2] Kuznets. S, *National Product Since 1869*, National Bureau of Economic Research, 1946.
[3] Brady, Dorothy, S. and Friedman, Rose D., *Savings and Income Distribution*, p. 248.
[4] Dusenberry, J. S., *Income, Saving and the Theory of Consumer Behaviour*, Harvard University Press, Cambridge, Mas, 1949.

emulate ones' neighbours and the demonstration by the neighbours of qualities of the hitherto unknown or unused consumption goods. He argues that, consumption and saving depend not on the level of income but on the relative position of the individual in the income scale. Therefore, there exists strong tendency for the people to emulate other consumption pattern and to strive constantly towards a higher standard of living. Once a higher standard of living is achieved, people are reluctant to return to a lower level when income goes down.

Tobin had examined the consistency of relative income hypothesis and earlier absolute-income hypothesis and found neither hypothesis is satisfactory but concluded that weight of evidence favours the absolute income hypothesis.

"Friedman and Modigliani, Brumberg and Ando[5] (identified as MBA) attempted to reconcile conflicting indications about the basic nature of the relationship between consumption and income. Friedman's permanent income hypothesis was based on three sets of assumption. First, both current income and current consumption of a consumer unit in an identified period, have a transitory and permanent components. Permanent income for the period is conceptualised as the product of wealth expected over the consumer units lifetime and the rates at which the expected receipts are discounted. Second assumption is that permanent consumption has a fixed ratio (K) to permanent income. But K is independent of the level of permanent income. Third, is that, transitory elements of consumption and income are not correlated with their corresponding permanent elements and

[5] Friedman, S., *A Theory of Consumption Function,* National Bureau of Economic Research. Inc. N., York, 1955.

with each other.

If consumption is a function of permanent income, a rise in actual income would be expected to affect consumption only so far as the rise in income raises the consumer's permanent income. According to this hypothesis marginal propensity to consume (MPC) would be very unstable and would be high or low depending on how an increase in current income will affect expectations about the permanent income. This hypothesis, though analytically very rich is difficult to test empirically because of difficulty in measuring permanent income and consumption.

Modigliani, Brumberg and Ando's life-cycle hypothesis is another landmark in the history of consumption theory. Assuming that the household, has given life span and intends to leave no legacies and also given certainty, the motive for saving is to rearrange life time consumption in relation to the expected future income stream. Lifetime income is defined as "the sum of household's networth at the beginning of the period... plus the present value of its non-property income minus the present value of its planned requests...."[6] The rate of consumption at any given period is a facet of the plan which extends over the balance of individuals life, while the income accruing within the same period is but one element which contributes to the shaping of such a plan. The typical time profile of a life time income stream is one that rises in the early working years, reaches a plateau in the middle years and is followed by a sudden decline upon retirement. To even out the

[6] Modigliani, Brumberg, Richard and Ando, Albert. "Life Cycle, Individual Thrift and the Wealth of Nations," *American Economic Review*. June, 1986.

profile of lifetime consumption a typical household will either consume or save very little when young, save in the middle years and consume upon retirement. It is assumed that household's current consumption is proportional to its resources, the factor of proportionality depends on the interest rate used to discount future income. This hypothesis reconciles the non-proportional consumption function produced by the budgeted studies with the constancy of the long-run aggregate average propensity to consume.

Although, all the hypothesis try to explain consumption behaviour, the evidence surveyed leaves room for considerable satisfaction with the relationship postulated by Keynes that a highly regular relationship exists between aggregate consumption and aggregate disposable income. However, it is now clear that, the relationship of consumption and income is far more complex than earlier believed.

The best known of the early students of consumption-income relationship was Ernst Engel. He analysed family budget data and arrived at the following conclusion.

1) Food constitutes the largest proportion of total expenditure in the family budget.

2) The proportion of expenditure on food decreases as the income level and standard of living increases.

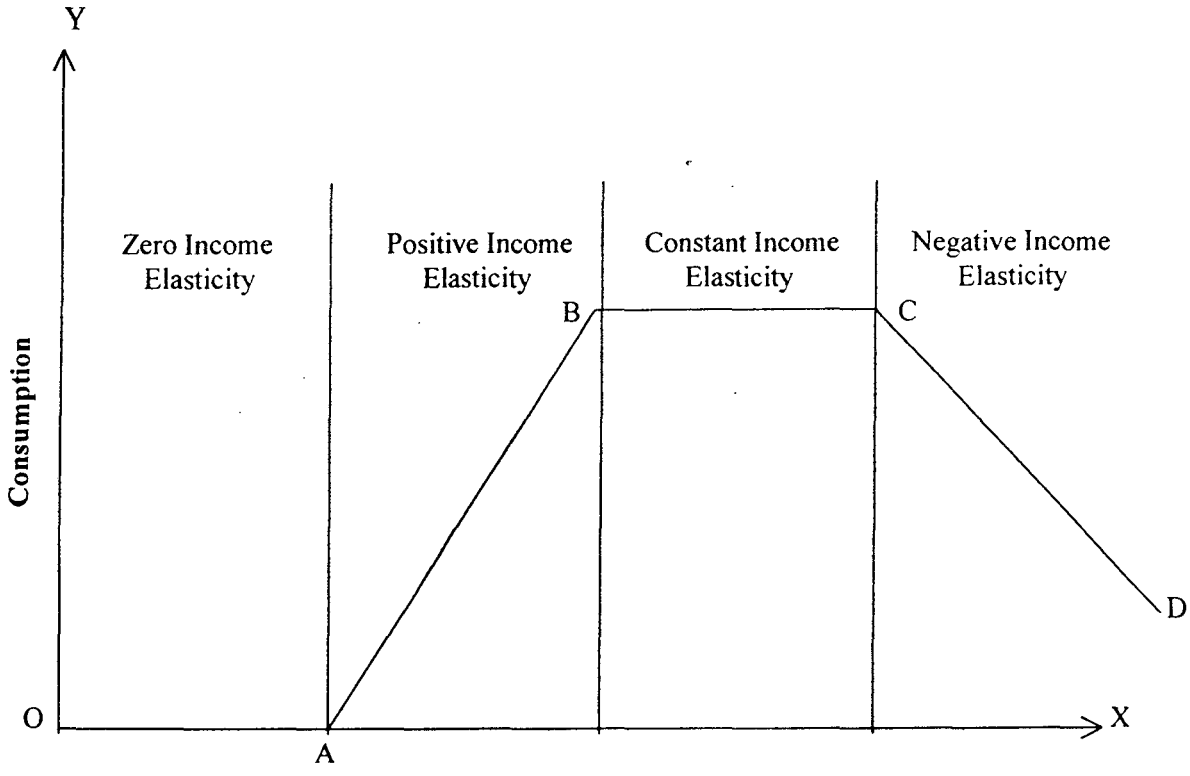
3) The proportion of expenditure on rent and clothing is approximately constant and that on luxury items increases with a rise in the income and standard of living.

In his latter study, Engel realised that first and third of his propositions are an inadequate representation of facts. His second proposition has been repeatedly confirmed in latter studies and has become known as Engel's law. The law states that "... the poorer a family is, the greater the proposition of total expenditure which it must use to produce food....". The validity of the Engle's law rests upon the theoretical consideration of the means and order of satisfying desires. Theoretically, it is not expected that this social process as predicted and shown by Engel would continue endlessly in the same direction.

Engel, used total expenditures as a measure of total purchasing power, rather than income, because of difficulties in obtaining income data. The ratio of food to expenditure, is somewhat lower than the ratio of food expenditure to income, because part of the variation in income is taken up by the variation in savings. However, Engel's law is stated in such general terms that the term "income" can be substituted for "total expenditures", without changing interpretation. The latter ratio is called "income elasticity of food expenditure".

More directly useful than his law are Engel curves which describes the responsiveness of demand for consumer goods to changes in income of the consumer. The slopes of this curve measures income elasticity of food consumption or of food expenditures.

THE ENGEL CURVE



(Diagram I)

In the above figure ABCD is the curve showing relation between income and consumption for food. When the curve is rising income elasticity is positive in the range AB, in the range BC, demand for good is not affected by changes in the lend of income, elasticity is zero. In the declining position CD, income elasticity is negative. As Engle postulated and as has been observed, demand for some commodities like food and basic clothing may not increase very much as income rises, while the demand for some other commodities like luxuries may increase rapidly with income.

Engel curves, however are crude approximations and can only be regarded only as partial relationships because expenditure on commodity or a commodity

group depends not only on income but on certain non-income factors like household size, age of the head of the household, age, sex, education and occupation. Since other factors are difficult to fit into Engle curves, many have tried to analyse consumption pattern with family size and income. It may be thought that since household size is a non-economic factor, it could be possible to proceed by treating it as a random variable which effects are superimposed on those of income and that its effect could be ignored by examining only the averages of a number of households of different sizes. This simple treatment is not justified for two reasons. Firstly, in most household expenditure samples, there is positive correlation between household income and household size, so that biased estimate will result if household size is not explicitly treated. Secondly, variation in household size have comparatively large effects on consumption. Thus, household size must be considered explicitly in the formation of Engle curve.

The homogenity hypothesis allowing for the variation in household size is given by assuming that consumption per person depends on the level of income per person which in turn, corresponds to the assumption of constant returns to scale. The adoption of homogeneity hypothesis allows a number of simplifications in the theory of the household which are of importance. Here household size variation may be used to differentiate between luxuries and necessaries. The income elasticity is less than one, if a good is necessity and it is to be expected that scatter diagrams will show the Engel curve for larger household's laying systematically above those for smaller households. On the other hand the income elasticity is greater than one for luxuries and the curves for smaller household will be higher.

In the intermediate case when the elasticity is about unity, the curves will cross each other and shall show little systematic variations with the size of the household.

Alongwith the homogeneity assumption other assumptions required for Engle curve [7] are as follows:

(a) In the derivation of Engel curve from family budget data differences like different incomes; different composition and size of households observed to exist. These differences are sought to be captured by observing consumers in different circumstances at the sametime through cross-section studies.

(b) prices are also assumed to be same for all households within the group to which the budget relates.

Due to certain complication like the presence of dynamic factors which includes a resistance on the part of the consumer to immediate change in his habits, the first assumption mayn't hold true. Invalidation of second assumption is caused due to existence of regional price variations, local monopolies price determination and semi-controlled markets. The error resulting from this assumption can be minimised by stratifying households into groups having more or less the same way of life and family composition. Lags in response to price changes may be of little importance, but income lags are much more important and relevant to the interpretation of Engel curves.

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[7] Prais, S. J., and Houthkker, *The Analysis of Family Budgets,* Cambridge University Press. Cambridge, 1955.

In the Engel curve, the dependent variable may be taken either in terms of quantity consumed or expenditure incurred on the particular item or /items group. The choice of either or both of them rests primarily on the objective of the study and on the availability of data besides other analytical advantages. But expenditure elasticity may serve better for projection purpose rather than quantity elasticity because the later elasticities face some difficulties. Firstly, if the item under consideration differs in terms of quality, such that with the increase in income the consumer may shift to better quality items, rather than consuming more of them, the predictions based on quantity elasticities may become dubious and hence command no practical value. Moreover, the change in price of any item over time causes some changes in the consumer behaviour through 'income' and 'substitution' effects. But Prais and Houthakker (1955) says that both the approaches need to be treated as complementary rather than competitive, because we can compute quality elasticity of an item by subtracting quantity elasticity of that item from its expenditure elasticity.[8]

On the other hand, explanatory variable in derivation of Engel curve, i.e. disposable income, the consideration about its definition is complex. Friedman asserts that, permanent income determines permanent consumption whereas transitory components are independent of the permanent components and of each other as well. It, therefore immediately follows that the income concept to be used should come as close as possible to permanent income. As against this, in most family budget surveys income data consists of income received during short-period

[8] Supranote 7, P. 148.

which deviate from true permanent transitory and unexpected elements (Friedman, 1957; Liviatan, 1961; Klein, 1962).

As an alternative to disposable income, total consumer expenditure has been widely used as an independent variable in most studies in consumer behaviour which is also closely correlated with underlying permanent income. (Prais and Houthakker, 1955; Leser, 1963; Iyengar, 1967; Ganguly, 1967).

Changing Nature of the use of Consumption Function in Macro-Models

The subdivision of economics into micro and macro models is largely a post-world War II development. Before 1940, most consumption theory emanated from the theory of individual consumer by direct generalisation. What the individual consumers would do in response to price alternatives or income changes was assumed to hold true for all consumers in a market or country.

The pre-world war theory of market behaviour shows how consumers reacts to the change in prices in the market. By studying this, market demand schedule was envisioned as the sum of the schedules of individuals in the market without many complications. But the aggregation of incomes of the individuals to make up market schedule was gradually recognised to involve quite complex problems.

In constructing a complete macro-economic model planners and economists assumed a simple, absolute income consumption function. This can be useful simplification if the main purpose of the model is to emphasise those features which are fundamentally important to particular theoretical approach. For instance in Keynesian model, the absolute income consumption function is an

important ingredient because it is a simple way of obtaining multiplier process.

Consumption functions in which the major determinants are flow variable, income, are much favoured by Keynesians. Monetarist often prefer a stock adjustment approach whereby consumption depends on wealth and the rates of return on different type of assets. However the two approaches can be made equivalent, as the permanent income and life cycle hypothesis show.

In economic models where the effects of adjustment lags are an important consideration, a simple consumption function is inadequate. A more complex function is needed for this dynamic model. The model can trace out a dynamic time path of adjustment for the endogenous variables. The quantitative size of the lags relating to each period of time will determine the adjustment path followed by the endogenous variables. Thus, if the economy is to be regulated along Keynesian line lag structure of consumption needs to be known with reasonable accuracy.

In aggregating economic models linear expenditure systems (LES) are of greater interest where they provide desirable disaggregation of the consumption function. This model was first proposed by Klein and Rubbin (1947) and latter developed by Stone (1954). The LES system is associated with direct additive utility function from which demand function are derived in normal way, and applied to 'group of commodities' between which no substitution is possible. In fact, LES is the most general Linear system that automatically satisfy theoretical restrictions, viz., homogeneity, aggregation and the slutsky symmetry condition. There are various variants of LES, depending on the form of utility function. All these models help in prediction for demand of different commodities.

A Review of Consumption Studies in India

Studies pertaining to trends and patterns of consumption in India are summarised below. Each of these studies has taken a specific note of major trends in the consumption of food or non-food commodities. But before going to Indian aspect of these studies, it will be worthwhile for us to take a glimpse of studies on consumption, which took place outside India.

Studies on consumption started basically after 1920's and 1930's when improved datas are developed. But before that, Henry L. Moore's research on economic cycle lead to the development of modern statistical demand analysis in which he tried to establish laws of demand for agricultural products. The great depression of 1930's focused attention on income and consumption relationship and led to the monumental consumer purchase study (CPS) of 1935-36. Since the thirties, there have been a number of studies to test the hypothesis put forward by Keynes. Kuznets study in 1946 about the constant saving ratio since 1870 which went contrary to the fundamental psychological law of consumption accelerated research in this field. There are also a large number of studies carried out world over from the family budget data. Most notable studies are that of the Stone (1954), Prais and Honthakker (1955), Wald and Jureen (1953) which are regarded as important landmarks in this field.

In India prior to 1950, hardly any attempt was made to study the consumer behaviour because of near general stability of consumption patterns and non-availability of relevant data on household consumption. Empirical studies on consumer behaviour started during fifties in connection with the formulation of

India's second five year plan. And the setting up of the national sample survey organisation (NSSO) in 1950 further stimulated interest on consumer studies. But all most all the studies are based on cross-section data, as NSS doesn't publish time-series data thereby limiting the scope of these studies.

The first studies on consumer behaviour is a collection of papers by the research workers in the Indian Statistical Institute, Calcutta. The second long term projections of demand and supply of selected agricultural commodities, 1960-61 to 1975-76 is the result of the study made by National Council of Applied Economic Research (NCAER), New Delhi. In most of the cross-sectional studies based on the NSS data, consumer demand of the rural and urban sectors of the country have been separately examined. These studies reveal marked differences in consumption habits in the two sectors of India (Rudra and Roy, 1960; Sinha, 1966; Gupta, 1968; Mahajan, 1971). In fact several items appear to be luxuries in the rural sector while they are necessaries in the urban sector. The principal factors responsible for such differences are differences in the standard of living between the two sectors, the differences in relative prices and the extent of monetization prevailing in the two sectors, variation in the occupational pattern of the populations, and so on.

Of the notable studies it would be worthwhile for us to present the broad features of some of the important ones. Ashok Rudra[9] for instance, used the Linear Expenditure system developed by Richard Stove for measuring the income elasticity from time series for six commodity groups. The magnitude of elasticity

[9] Rudra, Ashok, "Demand Elasticity for Foodgrains," *Economic and Political Weekly*, November 1969.

derived for foodgrains was the largest and fairly closer to one. Ravi Varma (1959)[10] fitted constant elasticity Engel curves to regionwise NSS data on foodgrains, and observed appreciable regional variations in the elastcities. D.P. Sinha[11] investigating in 1966 has suggested the suitability of log-log inverse form for all the major categories of food with total perapita expenditure as the main determinant of household percapita consumption. Studies by Radhakrishna and Misra (1970) and Mahajan (1971) also revealed interesting inter-regional differences in consumption patterns.

Gupta[12] in 1968, compared the consumption patterns of foodgrains and clothing between six regions separately for rural and urban India, using published NSS data for the 11^{th} and 12^{th} rounds. After trying eight algebric forms, he selected constant elasticity and log-inverse forms and examined the homogeneity of slopes and intercepts for different regions by applying covariance technique. The regional variations were significant for both the items in their sector, the intercepts varying markedly rather than the slopes suggesting that certain regional factors have been omitted. Rural and urban variations were also shown to be significant. In an another study, Gupta examined the effect of household size on consumer behaviour using ungrouped N.S.S 17^{th} round data for rural and urban households in U.P. and Madras. He found that elasticities was often significantly below unity for essential items, but close to one or above it for the less essential and luxury items.

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[10] Verma, Ravi, "Income Elasticity of Demand for Foodgrains. : A Regional Approach," *Artha Vijna,* Vol. 1, 1959.

[11] Sinha, R. P., "An Analysis of Food Expenditure in India," *Journal of Farm Economics,* Vol. 48, November 1961.

[12] Gupta, D. B., *"Consumption Patterns in India : A Study of Interested Variation,"* Tata McGraw Fill Publishing Co. Ltd.

Iyengar[13], Jain and Srinivasan (1968) fitted the double log function (constant elasticity), to ungrouped NSS 17th round budget data for the rural and urban sectors of two states, Madras and Uttar Pradesh. It is found that economics of scale were clear in case of cereals, fuel and light in UP as well as in Madras, but the economics are not so clear in case of milk and milk products and clothing - the two items are considered to be luxurious in India.

Maitra[14] (1969) examined the grouped state-wise (i) estimates for cereals and cereal substitutes for rural India obtained from NSS rounds number 13,15,16,17 and 18 and also (ii) estimates of quantitative consumption of rice, wheat and total cereals from the 17th round of the NSS. He fitted both the log-log inverse and semi-log form of Engel curve, but the former is found to provide best fit to the data. Analysis of covariance showed considerable inter-state variation of the Engel elasticity within each round. However, intertemporal variation of elasticity appeared to be less pronounced. Besides this there is a work done by Radha Krishna who worked out Engel curves for all the states of India by using different mathematical forms.

Finally, Radhakrishna[15] (1996) showed that, per capita consumption of cereals has shown a declining trend in India with the exception of Kerala, West Bengal and Orissa. The decline is very prominent in Punjab and Haryana where there is a diversification of food baskets in favour of non-cereal food.

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[13] Iyengar, N. S., "Some Estimates of Engel Elasticity based on NSS Data," *Journal of Royal Statistical Society*, Services A., (Gen). Vol. 130, 1967.

[14] Maitra, T., On Regional and Temporal Variations in Engel Curve in Rural India: ISI Calcutta.

[15] Radhakrishna, R., "Food Trends, Public Distribution System and Food Security Concerns," *Indian Journal of Agricultural Economics*, Vol. 51, Nos. 1&2, January-June, 1996.

Coming to studies dealing with the effect of household composition on consumption pattern, mention must be made of study by Chowdhury (1967) who obtained surprisingly reasonable estimates of the specific unit consumer scale for cereals through a crude approach. He assumed the Engel elasticity for cereals to be zero and thus expressed total household consumption of cereals as a homogenous linear function of the household composition vector. The relative magnitudes of the estimated regression coefficients gave the estimate of the specific unit consumer scale for cereals. NSS 14th round data for each of the six population zones of rural India were used in this investigation.

Another important contribution was made by Singh and Nagar (1973), where he made an interesting extension of Prais and Houthakker's (1955) well known procedure of estimating unit consumer scales. This procedure was actually applied to NSS 15th round data for 381 sample households in rural west U.P. Separate estimates of unit consumer scales were obtained for four occupational groups. Household members were classified into four groups (age-sex-wise); twelve food and eight non-food items were considered. The estimated scale were not entirely satisfactory but Singh could explain some of the anomalous results. Needless to add, the Engel elasticities based on the final curve were superior to those based on the initial curve.

Though, there are number of studies in this field, a review of all or even most of them is beyond the scope of this study.

Consumption in Developing Countries

Levels and patterns of consumption of food and other goods and services in

developing countries are more varied and more critical to future economic and social changes and are much less homogenous. Levels of consumption for food and for non-food goods and services are often very low among large groups of people. Averages for the whole country are much less meaningful because of wide disparity in consumption rates and the attitudes between people in the so called "westernized" or industrialised urban centers (described by Chiang as "contact points"[16]) and in the isolated points of the hinterland where the indigenous cultures are still predominant. The "demonstration effect" appears to work faster in changing consumption in the contact points but with increasing purchasing power and urbanisation and the further development of the communication and transport network, knowledge spreads and the demand for newer types of goods and services increases in the hinterland.

In these developing countries, three sets of socio-economic phenomena materially affects trendy in consumption - those related to production, to allocation for investments versus current consumption, and to population growth. Near hysteria over population trends not only Jeoparadises the per capita food availability as production never match the demand, but also reduces the rate of consumption, thereby affecting nutritive values of food.

Even though large proportion of available income and total energy of poor families is devoted to obtaining sufficient food, the levels of food and nutrition in many parts of the developing countries is low because of compounding of many factors unfavourable to food supplies - greater crowding on the land with much

[16] Chiang, Alpha, C., "The Demonstration Effect in a Dual Economy," *American Journal of*

smaller productive area per person to be fed; poorer natural climatic and growing condition for food production in many cases; primitive methods of cultivation in large area and care of livestock, with little or no use of modern technical knowledge of natural or artificial fertiliser, of improved variety or hybrid seeds, with greater productive vigour, and little protection of the crops.

On the demand side, there is increase in demand for food and other goods and services due to occupational shifts toward jobs that yield higher incomes, usually in urban areas and gradual rise in the level of general education. But most important cause was increase in the pace of economic development. When economic development takes place in these countries, subsistence farmer gradually produce more for their own needs as their expectation and technological knowledge increase. As the basic food needs of their families are met, their wants turn to goods and services they can't produce and must buy. To buy such goods, they must increase their own output and sell more.

When incomes from commercial agriculture, industry, and trade increases, the demand for purchased food usually goes up faster than supplies. Prices rise. As a developing country increases its demand for food, the demand gradually shifts from the staple foods, first towards more perishable fruits and vegetables to livestock product.

The main objective of economic planning in developing countries like India is to achieve a secular increase in the real percapita income of the individuals. Hence the growth policy is to mobilise internal resources for the purpose of capital

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Economics and Society, 1958, p. 250.

promotion and to invest economy's available surplus in desired way to achieve rapid increase in income. Rise in rural percapita income is usually accompanied by an increase in the demand for different commodities. Hence supply of commodities must be increased in order to match the demand to keep the prices constant. Any disequilibrium in the demand and supply of commodities shall lead to bottleneck. It is, therefore, valuable to have knowledge of future demand for different consumer goods.[17]

Looking at the Indian economy, its vastness, wide ranging variations in habits and tastes, it is essential to have adequate knowledge on future demand for different commodities for policy formulations. We have a predominantly agricultural country where a significant proportion of national output is intended for self-consumption. The percapita incomes being very low, sometimes below the minimum level of subsistance, the bulk of the population live in the condition of abject poverty. The key to dynamism in such a country lies in its economic planning and policy and the need for demand projection for macro level policies.

Usually in such developing countries, the simple multiplier principle of Keynesian scheme doesn't work, inspite of high marginal propensity to consume because of supply bottlenecks and smaller industrial base. Again an increase in money incomes of agriculturists due to economic progress will cause a large part of the increase to be spent on consumption goods particularly food items and food grains. There will be also reduction in marketable supply because of increase in

[17] Rao, V. K. R. V., "Investment, Income and the Multiplier in an Underdeveloped Economy," in Agarwala and Singh (Ed), the Economics of Underdevelopment, 1958.

self-consumption. This means that non-agricultural sector has to pay still higher price for its foodgrains. Thus, the increase in percapita income due to economic progress if not accompanied by increase in supply, the rise in prices will affect the already existing low consumption levels of the growing population. It will also, necessitate the import of these goods thereby cutting down other essential imports of raw material and machinery goods required for economic development. This will act as a major obstacles in the progress of the country.

In order to avoid such situations the planner is compelled to know the consumer preferences. The principle underlying this is that once the consumer's share in the society's total resources is settled and his wants 'pruned of irrationality', the production of consumer goods should be designed in such a way that it secures the maximum fulfilment of his wants. Planning without the requisite coefficients of choice is bound to be arbitrary based on intuition and guesswork. This could prove disastrous for developing countries since they are not likely to have large stocks of goods to meet their current deficits. The influence of consumer demand has to be encountered by the planner in respect of the means of production as well. The guiding principle of growth policy in a developing country is the mobilisation of internal resources for purposes of capital formation. In order to ensure that economy's available surplus is canalised into investment, consumption must be controlled.

In recent years, among the South Asian countries India and Pakistan had maintained large quantities of grain reserves from internal procurement. Though there is an argument that such reserves tie-up capital needed for instrastructural

development, there is strong arguments in favour of building up reserves on the ground of food security and stability of farm income. During 80's and 90's, Asia particularly South Asia witnessed a satisfactory record of growth in foodgrain production. Imports have not played a major role in the net availability except during a few years of acute scarcity. Inspite of the fact that food production growth rate exceeded population growth rates, thereby discarding the Malthusian theory of population, in most of the countries in this region, average food consumption levels are very low, none of them met the normative daily per capita energy requirements and lastly, population below poverty line is very high. As Prof. A.K. Sen pointed "starvation and poverty is the characteristics of some people not having enough food to eat. It is not the characteristics, if there is enough food to eat". But the Asian countries prove the opposite.

Policy Relevance

There is disagreement concerning the channels through which macro-economic policy affects consumption expenditure. The traditional view is that disposable income is the predominant channel in the transmission mechanism, while changes in money supply and interest rate have very little influence. This leaves direct and indirect tax changes (including subsidies) as the principal means by which the government can regulate consumption. However, the permanent income hypothesis suggests a weaker influence for fiscal policy since tax changes can only affect consumption, if they alter permanent income. They, temporary anticipated tax changes will have no impact on consumption because they only affect transitory income. If expectations regarding tax changes are unanticipated

which is regarded as permanent, will affect consumption.

Nonetheless, the permanent income hypothesis does predict that a change in transitory income will be entirely absorbed by household saving, which includes purchases of consumer durables. This enables tax change to affect a sub-component of aggregate consumption expenditure. Opponents of this hypothesis maintain that households can't borrow extensively on the expectation of uncertain future income. They, therefore, face a binding liquidity constraint which enforces a reasonably close correspondence between current consumption and current income.

The permanent income of life-cycle hypothesis gave monetary policy a predominant role than does the traditional Keynesian approach becaus they treat consumption as determined by wealth or its permanent income equivalent. The monetarist view of the transmission mechanism is that monetary policy affects aggregate demand by causing portfolio adjustment. Any change in either total private sector net wealth or in its consumption will result in portfolio disequilibrium. Asset holder will adjust back to equilibrium by shifting between the various types of financial and real assets (goods). The government can increase the total amount of private sector wealth by increasing the stock of government bonds or money. Wealth will also increase if the ratio of money to bonds is increased causing interest rate to fall. This, in turn will increase the present value and raise the prices of financial assets, including equity. Therefore, total wealth will rise. In the monetarist transmission mechanism the effect of change in the stock of money is thus both more direct, because consumption depends on wealth

and more pervasive because portfolio adjustment occurs across the whole range of financial assets and goods. In contrast the traditional Keynesian transmission mechanism is indirect as it is restricted to interest rate changes only. But recently Keynesian economist like Tobin have developed general equilibrium portfolio approach to financial analysis, and more recent Keynesian economic models do now incorporate a relatively comprehensive monetary transmission mechanism.

Plan of the Study

The present study was organised in five chapters. Chapter.2 discusses the objective of the study and also about NSS data and some of their limitations.

Chapter.3 was devoted to the analysis of inter-state and rural-urban variations in consumption pattern.

In chapter. 4 we analyses the suitability of different Engel functions for cereals and clothing at the state level as well as regional level in India. An attempt was also made in this chapter to compute expenditure elasticities of cereals and clothing and their inter-state variations by using NSS 43rd &50th rounds of data.

Chapter 5, summarises the main findings of the study and discusses some of its limitations along with a few remarks for further work.

Chapter - 2

OBJECTIVES AND METHODOLOGY OF THE STUDY

This chapter deals with the objectives of the study which has been briefly explained in the first section. The next two sections contain the hypothesis and the data base of the study. Lastly, the methodology of the study is outlined in two sub-sections at the end this chapter.

Objectives and Scope

The specific objectives of the present work are:

i. to examine the pattern of consumer behaviour of households in different states both in rural and urban areas. This is done by finding out the share of different commodity groups in the total expenditure

ii. to highlight the difference between the rural and urban areas in terms of monthly percapita consumption expenditure and also between rich and poor states; and

iii. to estimate expenditure elasticities (in the absence of income data) of cereals and clothes by employing seven different formulations of Engel functions so as to fit them to different commodities and states.

Hypotheses

The below mentioned hypotheses are to be tested in the course of study. They are as follows:

1. Expenditure elasticity of demand for cereals is less than unity.

2. Expenditure elasticity of demand for clothing is more than unity

3. a) Rural-Urban differentials in consumption of cereals are less than that of clothing.

   b) these differences are more prominent in less developed states as compared to developed states.

4. Strong "Demonstration effect" in rich states causes a change in preference pattern in favour of non-cereal food, whereas in some poorer states it is in favour of cereals.

Data & Variables

For the present study, the data extensively used are the published NSS data on household consumer expenditure made available by C.S.O. (in every five years) pertaining to 43^{rd} and 50^{th} rounds covering the periods 1987-88 and 1993-94 respectively. For analysing the various objectives of the present study outlined in the first part of this chapter the data on variables, viz., (i) the average monthly expenditure percapita on various commodity groups, (ii) the average monthly total expenditure percapita, and (iii) the proportion of persons for various percapita expenditure classes have been taken from the aforementioned NSS draft reports.

Items Classifications

Descriptions of a major commodity groups:

The groups of items of consumption as used for analysis are defined in terms of

their constituents.

1. ***Cereals***: Rice, wheat, Jowar, Bajra, Maiza, Barely, Ragi and their products
2. ***Gram***: Bengal gram and its products
3. ***Cereal Substitutes***: Several substitutes like topica, pea etc.
4. ***Pulses***: Arhar, tur, gram, moong, masoor, urd, khesari, soyabean and other pulses.
5. ***Milk & Milk Products***: liquid milk, butter and other milk products
6. ***Edible Oil***: vanaspati, mustard oil, coconut oil, groundnut oil, linseed oil, oil seeds.
7. ***Meat, egg, fish***: meat (goat, mutton, beef, pork) egg, poultry, fish, bird and others.
8. ***Vegetables***: Potato, onion, tomato, brinjal, cabbage, cauliflower, root-vegetable etc.
9. ***Fruits and Nuts***: Banana, Orange, lemon, mango, coconut, guava, pineapple, raisin etc.
10. ***Salt***: sea salt, rock salt and other salt
11. ***Sugar***: Factory sugar, Khandasari sugar, gur, sugarcandy etc.
12. ***Spices***: Turmeric, black pepper, pepper, dry chillies, tamarind, ginger, curry powder, other spices etc.
13. ***Beverages and refreshments***: Tea, coffee, other drinking beverages, biscuits, prepared sweets, pickle, sauce, Jams etc.
14. ***Total Food***: Sum of all items from 1 to 13 item groups

15. ***Pan, Tobacco and Intoxicants***: Pan leaf, Pan finished, supari, biri, cigarettes, hookah, tobacco, saauff, zardah, surti, opium, ganja, liquor etc.

16. ***Fuel and light***: Coke, coal, electricity, gas, dung coke, charcoal, kerosene, candle, matches etc.

17. ***Clothing***: Men's, women's and children's clothing (outwear, underwear and others) made of cotton (mill-made, handloom), silk and wool and all items of bedding and upholstery.

18. ***Footwear***: Boot, shoe, slipper, sandal, chappal, wooden sandle, etc.

19. ***Miscellaneous goods and services***: Amusement, education, medicine, toilet articles, sundry articles, conveyances etc.

20. ***Durable goods***: Gold, precious metals, radio, TV and other luxury items.

21. ***Non Food total***: Sum of all the item groups above shown from 15 to 20.

22. ***Total Expenditure***: Sum of all the item groups above shown from 1 to 20 (except 14) or sum of all food and non-food (14+21).

Concepts and Definitions

The precise definitions of the various concepts used in the NSS during the collection of data on personal consumption are given below:

Household: A group of person normally living together and taking food from a common kitchen constitutes a household. On the otherhand, household maintained and directly fed by the government are however are not included in the scope of the study.

Household Consumer Expenditure: The expenditure incurred by a

household on domestic consumption during the reference period is the household's consumer expenditure. It also includes home grown produce or transfer receipts like gifts, loans etc. To avoid double counting, transfer payments like charity, loan advance, etc., made by the household are not considered as consumption for item of groups, since transfer receipts of these items have taken into account. Expenditure on purchase and construction of residential houses is considered as expenditure on capital account and is therefore excluded from consumption, but expenditure towards maintenance and repairs of residential buildings are included.

Reference period: Consumption data appearing in this report were all collected with a reference period of "last 30 days", i.e. the 30 days immediately preceding the date of survey. The reference period used for the consumption survey, in otherwards, was a "moving" one, varying from household to household. In addition for items like clothing, footwear, durable goods and services, data have been collected for a reference period of last 365 days also. But finally data published are based on date of 30-days reference period only.

Monthly Percapita Expenditure Classes (MPCE)

NSS consumer expenditure reports various estimates, including state and all-India level values of different Socio-economic indicators, separately for a number of classes of the population formed on the basis of MPCE. For both 43rd and 50th round, 13 MPCE classes are drawn up of which last one is the average of all expenditure classes. But in 50th round, the MPCE classification is being updated for the first time, since the 43rd round. The classification used here is described below first for 43rd round and then for 50th round respectively.

43rd Round

	RURAL (Rs.)	URBAN (Rs.)
1	Below 65	Below 90
2	65-80	90-110
3	80-95	110-135
4	95-110	135-160
5	110-125	160-185
6	125-140	185-215
7	140-160	215-255
8	160-180	255-310
9	180-215	310-385
10	215-280	385-520
11	280-385	520-700
12	385 & above	700 & above
13	All expenditure class	All expenditure class

50th Round

	RURAL (Rs.)	URBAN (Rs.)
1	Below 120	Below 160
2	120-140	160-190
3	140-165	190-230
4	165-190	230-265
5	190-210	265-310
6	210-235	310-355
7	235-265	355-410
8	265-300	410-490
9	300-355	490-605
10	355-455	605-825
11	455-560	825-1055
12	560 & above	1055 & above
13	All Expenditure Class	All Expenditure Class

Commodity groups selected for study: Nineteen commodity groups have been considered out of which 13 are food groups and 6 are non-food groups. But for Engel elasticities two commodity groups cereals and clothing have been choosen because cereals is the most dominant group in food items and clothing in non-food items.

Major states: The study is carried out for 15 major states of India and at all-India level. Major states refers to the following states of India: Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.

Defects in Using NSS Data

Though the NSS is the best source of data for India, the data for India, the data suffers from many limitations, the important ones being enumerated below.

i. a shorter moving reference period of 30 days, is likely to give an under-estimation of consumption expenditure in the NSS and that the underestimation of consumption of the upper middle class and richer sections will be much more than that of the middle, lower middle and poorer sections. It also ignores social customers like festivals and marriages etc.

ii. The NSS doesn't impute rent of owned houses. So this necessarily lowers the consumption expenditures. It is a known fact that most of the rural households live in their own houses as compared to urban areas, so this may not give satisfactory results of rural urban comparison in consumption expenditures.

Arun Ghosh[1] deduced from NSS 27th round (1972-73) the following facts: "We have little data other than NSS to indicate rural poverty, and somehow the NSS consumption studies are made to coincide with years of good monsoon and high agricultural output, which hides the stark reality".

Apart from the above NSS data suffers from, seasonality effects, use of multiple prices in the evaluation procedure and under reporting of socially unacceptable consumption items. The first two may cause some anamolies in our estimation of Engel elasticities which are borne in mind while interpreting them.

Methodology

Statistical methods which are in use for analysis of present study are briefly mentioned below in two parts.

Sec. I. In this section the purpose is to describe the method of ordinary least square (OLS) which has been used to estimate the parameters of Engel functions and to calculate expenditure elasticities. Below we briefly mentioned in tabular form different models used in the study and the formulas for calculating elasticities and Expenditure Coefficients (E.C.).

S. No	FUNCTIONS	ALGEBRIC FORM	M.P.C.	E.C.
1	Linear	$Y=a+bX$	B	$b(X/Y)$
2	Hyperbolic	$Y=a-b/X$	b/X^2	b/XY
3	Semi log	$Y=a+b \log X$	b/X	b/Y
4	Log inverse	$\text{Log } Y=a-b/X$	$b(Y/X^2)$	b/X
5	Log-log inverse	$\text{Log } Y=a+b \log X-c/X$	$Y(b/X+c/X)$	b+c/X
6	Log linear	$\text{Log } Y=a+b \log X$	b(Y/X)	b
7	Log quadratic log	$\text{Log } Y=a+b \log X-c(\log X)^2$	Y(b-2.c logX)	b-2.c log X

[1] Ghosh, Arun, (1989), "Mystery of a Declining Capital-output ratio," *Economic and Political Weekly*, 18, November 1989.

Now we addresses ourself towards the methodology of expenditure elasticities, which are computed as a rough approximation to income elasticities (in the absence of income datas). Expenditure elasticity simply means proportionate change in consumption of an item, due to proportionate change in total expenditure. If it is less than one (<1), the demand for an item is less elastic or inelastic to total expenditure and if it is more than one (>1), then demand for an item is more elastic to total expenditure. Expenditure elasticities for different items of consumption are very significant in economic analysis because they may be used (i) for classifying consumer goods as 'inferior', 'necessary' and 'luxury' goods, (ii) for projecting future demand of consumer goods and (iii) for studying the impact of changes in the level of living on the structure of the economy. Out of quantity elasticity and expenditure elasticity, which are complimentary to each other, we choose to compute the latter one because it serves better for forecasting purposes, when the item under consideration involves high quality differentials or when there is change in prices.

In the present study the elasticities are calculated at the mean values of the variables by fitting the above mentioned seven Engel functions. Not all of them satisfy the basic criteria, nevertheless, they have been used because they have their own respective merits. The linear form is the simplest of all as regards to the estimation and interpretation of the parameters are concerned, satisfying the adding up, the homogeneity and symmetry condition. Further it assumes constantcy of marginal propensity to consume for individual consumers belonging to different income or expenditure groups. But the most extensively used form is double log or

constant elasticity Engel curve and specially suitable for 'luxury' items. In so far as it is free from unit of measurement, it can be applied even to those Engel function which involves dependent and independent variables differing in terms of unit of measurement. However, it gives good approximation of Engel curve only within a small range of expenditures (or income) because of the constancy of expenditure (or income) elasticity of consumption. The semi-log function, which is suitable for necessaries implies a decline in the expenditure (or income) elasticity with rising expenditure (or income) particularly for the items having inelastic demand. Despite its nearly acceptable behaviour and some favourable empirical evidence, it doesn't command universal applicability. The log-inverse form is also found to be suitable for necessaries approaching saturation, where elasticity declines to zero with rising expenditure. Finally, hyperbolic form is also found to be suitable for some necessaries and only this form posses the threshold and saturation level. Afforementioned two-parameter forms, though useful for explaining variation in expenditure on many individual item, sometimes proved to be inadequate as judged by their goodness of fit. In this context, log-log inverse form introduced by Goreux (1964) has proven capacity showing sensible variation in Engel elasticity along the Engel curve and of ensuring satisfactory fit for all types of items.

From the above discussion, it may be concluded that all the seven functions have their own merits and demerits. However we can test the reasonableness of a hypothesis by fitting alternative forms of the Engel curve.

Sec. ii. This section contains use of dummy variables and tests for analysing rural-urban differentials. Dummy variable method is used in regression equation when

some explanatory variables are of qualitative of nature like beautifulness, sex differences or rural urban disparities and so on. The main aim here is to take into account these effects. Since such characteristics can't be measured, we assign a value of 1 to the presence and 0 to the absence of attribute in question. If a qualitative variable has n number of categories, the procedure is to introduce only n-1 dummy variables. In this way an attribute is transformed into a type of variable which is restricted to two values only. Such a variable is called a *dummy or binary* variable. The implicit assumption here is that regression line for different groups differ only in intercept terms or in slope coefficients (parameters) or both. In the present study the difference between rural-urban disparities in consumption has been analysed by using dummy variables. Basic methodology behind this dummy variable is analysed below :

First homogeneity of slopes but heterogeneity of intercepts, between rural and urban regions were considered. Hence, in case rural-urban consumption of different commodities two simple Engel equations are:

$Y_1 = a_1 + b_1X + U$ .....(1) for rural

$Y_2 = a_2 + b_2X + U$ .....(1) for urban

Where Y_1 & Y_2 are the per capita monthly expenditure on a particular item in rural and urban areas respectively, X is total consumption percapita monthly expenditure and U is the disturbance term that satisfies all the assumptions of ordinary least squares (OLS).

By clubbing together above two equations by using dummy variable we get.

$Y = a_1 + (a_2-a_1)D_1 + bX + U$ ..... (3)

Where D_1 = 1 for urban

= 0 for rural

Using equation (3) we can get the estimate of (a_2-a_1). If it is significant, it may be concluded that there exists significant rural urban differences in consumption patterns.

If we assume homogeneity of intercepts, to test slope differences, then equation (1) and (2) can be written as:

$Y = a + (b_2-b_1)D_2X + b_1X + U$ ..... (4)

Where D_2 = 1 for urban

= 0 for rural

If the estimate of (b_2-b_1) is significant, then there exists significant differences in slope coefficients between both regions.

Like the above, to test overall differences in both intercepts as well as slope coefficients simultaneously, following regression equation can be used by clubbing together equation (3) and (4), where both intercept Dummy and slope dummy variables are used:

$Y = a_1 + (a_2-a_1)D_1X + b_1X+(b_2-b_1)D_2X + U$ ..... (4)

The estimates of (a_2-a_1) and (b_2-b_1) from the above equation can be used to find out overall differences.

Chapter - 3

INTER-STATE AND RURAL - URBAN VARIATIONS IN CONSUMPTION PATTERN.

In this chapter an attempt is made to analyze inter-state and rural-urban variations in consumption patterns. In section first, distribution of monthly per-capita total consumer expenditure in 22 major commodity groups in all the states in rural and urban areas are shown. In section second we analyses excess of urban expenditure over rural expenditure for all commodity groups in all the states and in section third rural-urban differential in autonomous and induced consumption is shown.

Before starting the analysis it will be worthwhile for us to compare average monthly per capita expenditure over different NSS round vis-a-vis total expenditure in case of all India rural and urban areas. In below table we mentioned the figure of a few important commodities.

Table 3.1

Average monthly per capita Expenditure Over different NSS Rounds

	Rural				Urban			
ITEMS	**32nd**	**38th**	**43rd**	**50th**	**32nd**	**38th**	**43rd**	**50th**
Cereals	32.8	32.3	26.3	24.2	20.5	19.4	15.0	14.0
Milk Products	7.7	7.5	8.6	9.5	9.5	9.2	9.5	9.8
Vegetables	3.8	4.7	5.2	6.0	4.4	5.0	5.3	5.8
Food Total	64.3	65.6	64.0	63.2	60.0	59.1	56.4	54.7
Non-Food Total	35.7	34.4	36.0	36.8	40.0	40.9	43.6	45.3
Total(4+5)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Exp.(Rs)	68.9	112.5	158.1	281.4	96.2	164.0	249.9	458.0

From the above Table-3.1, it is discernible that in India over different NSS rounds, average monthly per capita expenditure as a percentage of total in case of

food items is declining both in rural and urban areas but the declining trend is more perceptible in rural areas where as in case of non food items it is increasing but this trend is clearly visible for urban areas than rural. In case of a cereal, which was the most dominant food item, percentage expenditure shows a declining trend both in rural and urban areas but the magnitude of declining is more in urban areas than in rural areas. This is because with the increase in income urban people spend more on non-cereal food like milk products and vegetables. This reasoning is well satisfied from the figures in the above table. Another conclusion which can be drawn from the above table is that, though absolute total expenditure shows an increasing trend over different NSS rounds, average monthly per capita consumption expenditure on cereals and food items shows a declining trend.

Distribution of per capita Expenditure on Major Commodity Groups

Distribution of average monthly per- capita in terms of commoditywise (in 50th rounds) clearly reveals that (Table-3.2) food items accounts for 63.20 and 54.70 percent of total per capita expenditure in India in rural and urban areas respectively. Among the food items cereals is the most dominant commodity groups accounting for 24.20 and 14.0 percent, followed by milk and milk product which accounts for 9.5 and 9.8 percent of total expenditure in India in rural and urban areas respectively. In non-food category percent of total per capita expenditure in India in rural and urban areas are 36.8 and 45.3 respectively. Among the non-food category clothing is the most dominant item accounting for 5.4and 4.7 percent of total expenditure in India in rural and urban areas respectively. But in terms of figure miscellaneous commodity stood first followed by fuel and light. Distribution of expenditure shows people in rural areas spend

more on food items relatively to that of urban areas whereas urban people spend more on non-food items than that of rural areas indicating that the expenditure on food declines as development process leads to urbanization. But in case of both cereals and clothing it seems from the figure that percentage of per capita expenditure in rural areas more than that of urban areas at all India level. Nontheless, there are wide variations in these proportions of expenditure on cereals and clothing across different states in rural and urban areas.

The states where percentage expenditure on food items in rural areas is more than all India rural percentages are Assam,Bihar,Gujarat,Orissa, and West Bengal. These states are all less developed states, except Gujarat, where due to the successful migration of "Green revolution" consumption of cereals increases in a big way thereby making the food total at a high point. In Gujarat, percentage expenditure on food items is high due to increasing consumption of pulses, milk products and edible oil. The states where percentage expenditure on food items in urban areas, is more than all-India urban percentages are Assam, Bihar, Gujarat, Orissa, Rajasthan and Uttar Pradesh.

Table 3. 2 : DISTRIBUTION OF PER-CAPITA CONSUMER EXPENDITURE IN DIFFERENT COMMODITY GROUPS (50TH ROUND)

COMMODITY GROUPS	ALL-INDIA		ANDHRA PRADESH		ASSAM		BIHAR		GUJARAT		HARYANA		KARNATAKA		KERALA	
	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U
1. Cereals	24.2	14.0	24.5	17.9	35.1	20.1	36.9	22.9	16.7	11.3	12.7	10.3	22.8	16.4	17.5	13.0
2. Grams	0.2	0.2	0.0	0.0	0.1	0.2	0.5	0.7	0.1	0.1	0.2	0.3	0.2	0.0	0.3	0.3
3. Cereals Sub.	0.1	0.1	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0.0	3.5	1.1	0.4
4. Pulses Prod.	3.8	3.0	3.8	3.4	2.6	2.3	4	3.3	4.5	3.4	2.4	2.3	4.3	8.2	1.8	1.6
5. Milk Prod.	9.5	9.8	5.3	6.9	4.5	5.6	7.4	8.7	14.1	13.6	25.5	18.4	6.8	3.7	5.2	5.6
6. Edible Oil	4.4	4.4	4.9	4.5	3.7	3.7	4.5	4.6	8.7	7.7	2.4	3.6	3.9	3.4	2.9	2.6
7. Meat, Egg & Fish	3.3	3.4	4.5	3.9	8.4	8.2	2.7	3.6	1.1	1.2	0.5	0.7	3.3	4.2	8.5	8.1
8. Vegetables	6.0	5.5	5.0	4.5	8.1	6.4	7.7	6.9	7.9	6.4	4.4	5.3	4.9	3.2	4.2	3.4
9. Fruits & Nuts	1.7	2.7	1.7	2.0	1.2	2.2	0.7	1.7	1.3	2.2	1.6	2.7	3.2	2.5	6.1	5.5
10. Sugar	3.1	2.2	1.9	1.7	2.0	1.8	1.8	2.0	4.7	3.1	5.4	3.4	3.7	0.1	2.5	2.2
11. Salt	0.2	0.1	0.2	0.1	.03	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	2.0	0.1	0.1
12. Spices	2.5	1.9	3.2	2.5	1.5	1.2	2.1	1.7	2.4	1.8	1.8	1.6	2.8	8.3	2.6	2.0
13. Beverages	4.2	7.2	4.3	6.3	4.7	7.6	2.4	6.5	5.3	7.5	3.1	5.1	6.0	55.7	7.6	9.1
14. Food Total (1-13)	63.2	54.7	59.6	53.8	72.3	59.7	71.0	62.9	67.1	58.4	60.1	53.9	62.0	2.3	60.5	53.9
15. Pan & Tobacco	3.2	2.3	4.7	3.0	5.0	4.1	2.2	1.6	2.9	1.8	2.8	2.1	4.2	7.4	3.3	2.4
16. Fuel & Light	7.4	6.6	6.0	6.1	7.7	5.8	7.7	7.1	7.7	7.1	5.9	6.7	8.1	4.6	5.7	5.5
17. Clothing	5.4	4.7	7.5	5.5	3.1	4.6	3.7	3.7	3.8	3.6	5.4	3.5	5.9	0.5	4.3	7.3
18. Footwear	0.9	0.9	0.6	0.7	0.5	1.0	0.5	0.8	0.6	0.8	2.0	1.2	0.5	27.8	0.9	1.0
19. Misc. Goods	17.3	27.5	19.2	28.6	10.2	22.5	13.7	22.6	16.0	25.6	17.5	28.3	17.6	0.5	20.1	24.8
20. Durable Goods	2.7	3.3	2.5	2.4	1.4	2.3	1.3	1.3	1.8	2.6	6.4	4.3	1.8	1.7	5.2	5.0
21. Non-Food Total	36.8	35.3	40.4	36.2	27.7	40.3	29.0	37.1	32.9	41.6	39.9	46.1	38.0	44.3	39.5	46.1
22. Total Cons. Expenditure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables 3.2 Contd.....

	MADHYA PRADESH		MAHARA SHTRA		ORISSA		UNJAAB		RAJASTHAN		TAMIL NADU		UTTAR. PRADESH		WEST BENGAL	
	R	U	R	U	R	U	R	U	R	U	R	U	R	U	R	U
1. Cereals	26.3	14.7	17.9	11.3	38.9	19.9	10.5	9.0	18.0	12.7	24.7	16.3	21.7	14.1	33.9	17.1
2. Grams	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.1	0.0	0.2	0.2	0.3	0.2	0.1	0.1
3. Cereals Sub.	0.1	0.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Pulses Prod.	5.0	3.9	5.1	3.1	2.6	2.9	3.3	3.0	2.7	2.5	4.0	3.4	4.8	3.7	2.0	1.9
5. Milk Prod.	8.2	9.8	6.6	9.2	2.4	4.9	20.4	15.9	21.9	17.0	4.5	6.3	12.5	12.8	3.8	5.9
6. Edible Oil	4.6	4.9	6.0	5.2	3.1	3.5	4.2	4.4	3.5	4.4	3.9	3.6	4.2	4.1	4.0	3.8
7. Meat, Egg & Fish	1.7	1.8	3.2	3.2	4.1	5.0	0.8	0.9	0.7	1.3	4.3	4.2	1.7	2.0	6.6	7.4
8. Vegetable	5.7	5.4	5.1	4.9	8.6	8.0	5.2	5.3	4.3	5.4	5.7	4.8	6.0	5.9	7.6	6.4
9. Fruits & Nuts	1.0	1.9	2.9	3.4	1.1	1.9	1.6	2.6	0.9	2.1	2.0	2.2	1.4	2.6	1.1	1.9
10. Sugar	3.2	3.0	4.6	2.5	1.8	2.0	5.5	4.0	4.3	3.4	1.7	1.6	3.4	3.0	1.6	1.5
11. Salt	0.2	0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.3	0.2
12. Spices	2.3	1.8	2.6	1.6	1.8	1.5	1.8	1.7	2.3	1.9	3.8	2.7	2.4	2.1	2.0	1.7
13. Beverages	2.7	5.1	4.8	8.0	3.0	8.0	4.2	5.7	3.3	5.8	7.7	9.1	3.0	5.4	3.7	8.1
14. Food Total (1-13)	61.2	52.9	59.5	53.0	68.1	57.8	57.9	53.0	62.3	56.7	62.8	54.6	61.5	56.0	66.8	55.9
15. Pan & Tobacco	3.7	2.8	2.6	2.0	3.0	2.8	2.3	2.0	3.8	3.1	2.8	1.9	2.8	2.3	2.7	3.0
16. Fuel & Light	9.7	6.5	7.4	6.5	9.2	7.4	7.7	7.7	8.3	6.8	6.0	6.4	6.9	7.1	7.1	7.3
17. Clothing	6.3	5.8	6.5	4.0	4.9	5.2	5.0	3.9	4.8	3.6	4.3	4.8	6.5	5.4	4.6	4.9
18. Footwear	1.1	1.0	0.6	0.7	0.3	0.7	1.9	1.8	1.7	1.4	0.3	0.5	1.2	1.2	0.6	0.9
19. Misc. Goods	15.5	26.7	20.3	29.9	12.5	23.7	20.4	28.5	16.8	25.9	19.4	28.0	18.2	25.4	16.6	25.9
20. Durable Goods	2.5	4.3	3.2	3.9	2.1	2.3	4.8	3.1	2.3	2.6	4.4	3.8	2.9	2.5	1.7	2.1
21. Non-Food Total	38.8	47.1	40.5	47.0	31.9	42.2	42.1	47.0	37.7	43.3	37.2	45.4	38.5	44.0	33.2	44.2
22 Total Cons Expenditure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The states having percentage expenditure on non-food items in rural areas more than that of all India rural percentages are Andhra Pradesh. Haryana, Karnataka, Kerala, Madhya Pradesh , Maharastra, Punjab , Rajsthan, Tamil Nadu and Uttar Pradesh. The states where percentages of expenditure on non-food items in urban areas surpassed over that of all-India urban percentages are Haryana,Kerala,Madhyapradesh,Punjab. Maharastra and Tamilnadu. All the above states are developed states except Rajsthan, where non-food total is high due to increasing expenditure on miscellaneous goods followed by fuel and light. From, the above analysis we can infer that, in less developed states higher percentage total expenditure goes to food items and lower percentage to non-food items compared to that of developed states, where the opposite trends seems to be true. The above analysis also conforms the Engel's Law. In the pre-Engelian phase the proportion of total family outgo spent on food actually rises with increase in income. But after backlogs of hunger and malnutrition are cleared up, Engel's law relating income and food consumption would come into its own, and an inverse relationship would operate between incomes and proportion spent on food.

The percentage of total expenditure on cereals are 36.90 and 22.90 in Bihar, 39.1 and 20.1 in Assam, 38.90 and 19.90 in Orissa, 33.90 and 7.10 in West Bengal in rural and Urban areas respectively compared to 24:20 and 14.00 of all India. But in agriculturally advanced states like Punjab and Haryana percentage of total expenditure on cereal is the lowest in India. It is 10.50 and 9.00 in Punjab and 12.70 and 10.30 in Haryana. What is striking is the low per capita intake of cereal in the most prosperous states of Punjab and Haryana and high intake in the backward state of Orissa, Bihar, Assam and West Bengal. Part of the explanation

for this paradox lies in the diversification of food baskets (or preference pattern) in Punjab and Haryana in favour of non-cereal Food particularly milk and milk products, vegetable6s fruits meat and also due to reduced consumption of coarse cereals. In Bihar, Orissa, Assam and West Bengal high per capita intake of cereals is due to acceleration of rice production in Orissa, Assam and West Bengal and wheat production in Bihar. From the above it seems that that strong "Demonstration effect" are working at both contact points and hinterland of rich states where with the increase in income, there was change in preference pattern in favour of non-cereal food.

In case of clothing there is no such particular trend with regard to development of the states. The states where percentage of expenditure on clothing are more than all India's figure (5.4 for rural and 4.7 for urban) are Andhra Pradesh,Karnataka (rural), Kerala (Urban), Madhya Pradesh, Maharastra (rural), Orissa (Urban), Utter Pradesh and West Bengal (urban).

The commodity groups which shows most wide variations among states is milk and milk products. This group accounts for 25.5 and 18.4 percent in Haryana, 20.4 and 15.9 percent in Punjab and 21.9 and 17.0 in Rajasthan in rural and urban areas respectively whereas their shares for All-India are 9.5 and 9.8 percent. In Orissa these shares are as low as 2.4 and 9.9 percent in rural and urban areas respectively.

Few other salient features on the distribution of expenditure are given below:-

i) Miscellaneous commodity group account for a major share in non-food groups which contain services like education, health care etc. and this share is significantly high in urban areas.

ii) In food items first, second and third priorities are on cereals, milk and its products and vegetable or edible oil. In non-food items priorities are on miscellaneous goods clothing, fuels and light .

Rural-Urban Differentials in Monthly per capita Expenditure

An attempt is made here to examine the rural-urban differentials in per capita expenditure and its commoditywise variations by analyzing first, the consumption expenditure data of 43rd rural and 50th round respectively and then by clubbing the two rounds together, this has been calculated by following formula:.

$$E = \frac{(U - R)}{R} X100.$$

Where, E is Excess of urban expenditure.
U is per capita urban expenditure
R is per capita rural expenditure.

But one limitation which comes to mind and at the same time outside the perview of present study is that this excess is not real excess of urban expenditure in the sense that urban and rural commodity expenditure are in urban and rural prices separately. Hence, only excess of urban expenditures are analyzed below:

In 43rd rounds the magnitude of excess of urban expenditure varies a lot from state to state but the direction is almost same as evident from table-3.3. In case of cereals, rural expenditure is significantly higher than urban expenditure in

all states except Karnataka, Maharastra where the reverse is true though marginally. Total expenditure on food items in rural areas is more than urban areas in Assam only. But in all other states urban expenditure on food items is more than that of rural areas. Urban expenditure on non-food items is significantly more than rural expenditure in all the states except Assam and Maharastra. That means, Assam is the only state where monthly per capita expenditure on food and, non-food items and hence on total consumption was significantly greater than urban areas. Rural expenditure on milk and milk products is higher than urban expenditure in Bihar, Haryana and Punjab only. Haryana and Punjab are agriculturally highly developed in terms of per capita income of the people whereas in Bihar it is high, because milk product is an important business of the people. In all other food items except some minor items like cereal substitutes etc., urban expenditure is higher than rural expenditure.

In non-food items, clothing which has been considered in analysis of expenditure elasticities shows that urban expenditure is higher than rural expenditure except Haryana, Punjab and Bihar (though by very small amount) where reverse is true. In case of durable goods rural expenditure is more than urban expenditure in Haryana, Maharastra and Punjab. In case of pan, Tabacco and intoxicants rural expenditure is more than urban expenditure in Andhra Pradesh, Gujarat, Haryana and Kerala. The reason is that Andhra Pradesh is the leading producer of Tobacco in India,whereas in Kerala and Gujarat peoples of rural area produce opium and other intoxicant trees, which has large market in South East Asia. In all other items urban expenditure is more than rural expenditure. Punjab is the only state where rural expenditure is higher than urban

expenditure, in most non-food items like clothing footwear, miscellaneous goods and durable miscellaneous goods which contains services like health care and education, urban expenditure is significantly high in all states except Punjab. The states where maximum difference exists between urban and rural total expenditure are Orissa, West Bengal and Madhya Pradesh in that order . In all other commodity groups the excess of urban expenditure was clearly evident from the table.

Table 3.3 : RURAL-URBAN DIFFERENCIAL IN MONTHLY PER CAPITA EXPENDITURE (43rd ROUND)

COMMODITY GROUPS	ANDHRA PRADESH			ASSAM		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	39.62	38.43	-3.00	52.67	51.8	-1.65
2.Gram	0.03	0.04	33.33	0.19	0.36	89.47
3.Cereal Sub	0.02	0.01	-50.00	0.03	0.02	-33.33
4.Pulses	6.39	7.90	23.63	4.73	7.69	62.58
5.Milk & Product	7.93	15.02	89.41	6.74	15.81	134.57
6.Edible Oil	8.01	10.76	34.33	7.09	11.34	59.94
7.Meat, Fish etc	6.95	9.31	33.96	12.11	19.36	59.87
8.Vegetables	7.90	10.16	28.61	10.28	17.20	67.32
9.Fruits	2.39	4.33	81.17	1.40	3.97	183.57
10.Sugar	2.64	3.60	36.36	3.49	4.92	40.97
11.Salt	0.25	0.27	8.00	0.39	0.41	5.13
12.Spices	6.10	6.18	1.31	2.80	3.99	42.50
13.Beverages	6.66	15.58	133.93	5.87	18.69	218.40
14.Pan, Tobacco etc	7.91	7.85	-0.76	6.91	8.23	19.10
15.Fuel	10.00	13.58	35.80	12.30	17.39	41.38
16.Clothing	15.15	16.48	8.78	5.26	37.82	619.01
17.Foot Wear	1.00	2.00	100.00	0.80	2.28	185.00
18.Misc. Goods	25.83	55.29	114.05	18.78	46.43	147.23
19.Durables	5.34	13.54	153.56	1.78	2.23	25.28
20.Food Total	94.88	121.53	28.09	107.77	55.56	-48.45
21.Non-Food Total	65.24	108.75	66.69	45.83	14.37	-68.64
22.Total Exp.	160.13	230.28	43.81	153.60	69.93	-54.47

COMMODITY GROUPS	BIHAR			GUJARAT		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	52.13	48.53	-6.9	31.29	29.24	-6.55
2.Gram	0.92	0.89	-3.26	0.26	0.40	53.85
3.Cereal Sub	0.11	0.04	-63.64	0.03	0.09	200.00
4.Pulses	5.80	7.19	23.97	7.67	10.19	32.86
5.Milk & Product	28.05	14.99	-46.56	22.41	32.59	45.43
6.Edible Oil	6.86	10.48	52.77	13.02	21.44	64.67
7.Meat, Fish etc	4.10	6.81	66.10	1.34	2.98	122.39
8.Vegetables	8.23	11.56	40.46	12.22	15.70	28.48
9.Fruits	0.72	2.52	250.00	1.92	4.79	149.48
10.Sugar	2.08	3.56	71.15	7.75	7.82	0.90
11.Salt	0.34	0.33	-2.94	0.12	0.14	16.67
12.Spices	2.68	3.30	23.13	4.68	5.61	19.87
13.Beverages	3.16	8.92	182.28	8.65	13.50	56.07
14.Pan, Tobacco etc	3.31	3.85	16.31	5.24	4.87	-7.06
15.Fuel	10.42	12.43	19.29	13.15	19.88	51.18
16.Clothing	9.07	8.74	-3.64	5.44	7.98	46.69
17.Foot Wear	1.06	1.47	38.68	1.24	1.88	51.61
18.Misc. Goods	14.82	37.03	149.87	23.17	52.28	125.64
19.Durables	2.72	3.84	41.18	1.59	8.55	437.74
20.Food Total	95.17	119.12	25.17	111.37	145.20	30.38
21.Non-Food Total	41.40	67.36	62.71	49.83	95.45	91.55
22.Total Exp.	136.58	186.48	36.54	161.20	240.65	49.29

Table 3.3 Cont...

COMMODITY GROUPS	HARYANA			KARNATAKA.		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	33.25	29.69	-10.71	36.39	36.41	0.05
2.Gram	0.51	0.80	56.86	0.32	0.39	21.88
3.Cereal Sub	0.00	0.00	0.00	0.02		-100.00
4.Pulses	5.07	6.36	25.44	6.88	8.85	28.63
5.Milk & Product	52.91	47.12	-10.94	10.04	17.34	72.71
6.Edible Oil	5.68	13.36	135.21	5.90	9.13	54.75
7.Meat, Fish etc	1.15	2.69	133.91	4.21	7.54	79.10
8.Vegetables	8.37	12.08	44.32	6.86	8.84	28.86
9.Fruits	2.72	6.47	137.87	5.17	7.98	54.35
10.Sugar	9.90	8.13	-17.88	4.92	5.58	13.41
11.Salt	0.20	0.34	70.00	0.23	0.24	4.35
12.Spices	3.98	4.86	22.11	5.53	6.05	9.40
13.Beverages	6.78	13.75	102.80	8.42	18.24	116.63
14.Pan, Tobacco etc	6.93	6.60	-4.76	6.09	6.13	0.66
15.Fuel	13.68	17.44	27.49	12.89	16.41	27.31
16.Clothing	17.43	15.51	-11.02	8.18	14.52	77.51
17.Foot Wear	4.36	4.82	10.55	0.77	1.93	150.65
18.Misc. Goods	32.79	53.41	62.89	22.90	47.59	107.82
19.Durables	8.96	8.33	-7.03	3.47	9.91	185.59
20.Food Total	130.51	145.44	11.44	94.88	126.59	33.42
21.Non-Food Total	84.15	106.12	26.11	54.25	96.19	77.31
22.Total Exp.	214.66	251.56	17.19	149.13	222.78	49.39

COMMODITY GROUPS	KERALA			MADHYA PRADESH		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	37.83	35.82	-5.31	40.09	34.76	-13.30
2.Gram	0.45	0.67	48.89	0.32	0.39	21.88
3.Cereal Sub	2.80	0.85	-69.64	0.08	0.20	150.00
4.Pulses	3.69	5.06	37.13	8.04	10.55	31.22
5.Milk & Product	9.76	16.27	66.70	11.53	25.41	120.38
6.Edible Oil	6.76	8.53	26.18	7.81	14.13	80.92
7.Meat, Fish etc	15.59	21.24	36.24	2.28	5.22	128.95
8.Vegetables	7.48	8.97	19.92	7.08	12.54	77.12
9.Fruits	14.38	17.54	21.97	1.49	4.67	213.42
10.Sugar	4.58	5.11	11.57	4.66	7.01	50.43
11.Salt	0.22	0.24	9.09	0.23	0.30	30.43
12.Spices	6.42	6.49	1.09	3.65	1.46	-60.00
13.Beverages	16.75	25.19	50.39	3.98	13.99	251.51
14.Pan, Tobacco etc	6.79	5.48	-19.29	4.82	6.45	33.82
15.Fuel	13.53	16.02	18.40	10.79	15.16	40.50
16.Clothing	10.78	12.86	19.29	10.79	13.43	24.47
17.Foot Wear	1.55	2.69	73.55	1.48	2.92	97.30
18.Misc. Goods	38.78	56.87	46.65	18.06	52.69	191.75
19.Durables	13.33	20.32	52.44	4.79	11.70	144.26
20.Food Total	126.71	151.97	19.94	91.24	133.63	46.46
21.Non-Food Total	84.76	114.26	34.80	50.74	102.35	101.71
22.Total Exp.	211.47	266.72	26.13	141.98	235.98	66.21

Table 3.3 Cont...

COMMODITY GROUPS	MAHARASHTRA			ORISSA		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	30.52	32.90	7.80	52.83	49.59	-6.13
2.Gram	0.20	0.38	90.00	0.01	0.14	1300.00
3.Cereal Sub	0.79	0.90	13.92	0.06	0.05	-16.67
4.Pulses	8.31	10.84	30.45	3.41	7.32	114.66
5.Milk & Product	9.77	25.81	164.18	2.90	12.97	347.24
6.Edible Oil	9.56	17.18	79.71	4.84	11.09	129.13
7.Meat, Fish etc	5.20	10.10	94.23	5.15	11.00	113.59
8.Vegetables	7.10	14.30	101.41	8.89	15.51	74.47
9.Fruits	4.01	10.15	153.12	1.32	3.42	159.09
10.Sugar	6.18	7.34	18.77	2.10	4.36	107.62
11.Salt	0.20	0.29	45.00	0.44	0.46	4.55
12.Spices	4.43	5.54	25.06	2.62	4.04	54.20
13.Beverages	7.22	20.49	183.80	3.27	16.82	414.37
14.Pan, Tobacco etc	4.39	5.85	33.26	3.55	6.13	72.68
15.Fuel	12.10	18.28	51.07	11.56	16.06	38.93
16.Clothing	11.09	16.07	44.91	7.63	15.51	103.28
17.Foot Wear	1.16	2.59	123.28	0.54	1.68	211.11
18.Misc. Goods	24.13	66.55	175.80	13.59	45.02	231.27
19.Durables	14.36	13.99	-2.58	2.81	4.04	43.77
20.Food Total	93.53	156.21	67.02	87.84	136.76	55.69
21.Non-Food Total	67.25	23.32	-65.32	39.68	88.44	122.88
22.Total Exp.	160.77	179.53	11.67	127.51	225.20	76.61

COMMODITY GROUPS	PUNJAB			RAHSTHAN		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	26.85	26.12	-2.72	38.56	33.38	-13.43
2.Gram	0.58	0.74	27.59	0.15	0.12	-20.00
3.Cereal Sub	0.01		-100.00	0.00	0.00	0.00
4.Pulses	7.24	7.82	8.01	4.32	5.58	29.17
5.Milk & Product	44.87	42.35	-5.62	29.35	36.29	23.65
6.Edible Oil	11.71	15.40	31.51	9.78	15.98	63.39
7.Meat, Fish etc	1.53	2.77	81.05	1.93	3.89	101.55
8.Vegetables	10.73	14.51	35.23	7.85	11.68	48.79
9.Fruits	3.84	6.68	73.96	1.67	4.14	147.90
10.Sugar	14.30	10.08	-29.51	5.29	8.22	55.39
11.Salt	0.35	0.41	17.14	0.28	0.30	7.14
12.Spices	5.20	5.79	11.35	3.62	5.44	50.28
13.Beverages	13.34	15.58	16.79	4.74	10.17	114.56
14.Pan, Tobacco etc	4.74	6.75	42.41	6.49	6.49	0.00
15.Fuel	17.70	20.53	15.99	13.27	14.91	12.36
16.Clothing	16.34	14.68	-10.16	13.38	13.22	-1.20
17.Foot Wear	5.74	5.45	-5.05	2.05	3.98	94.15
18.Misc. Goods	146.45	64.19	-56.17	27.21	52.45	92.76
19.Durables	12.67	9.40	-25.81	6.64	11.61	74.85
20.Food Total	140.55	148.96	5.98	107.54	135.21	25.73
21.Non-Food Total	103.64	121.00	16.75	69.04	102.66	48.70
22.Total Exp.	244.19	269.95	10.55	176.58	237.87	34.71

Table 3.3 Cont...

COMMODITY GROUPS	TAMIL NADU			UTTAR PRADESH		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	43.07	42.40	-1.56	35.95	32.76	-8.87
2.Gram	0.28	0.40	42.86	0.65	0.50	-23.08
3.Cereal Sub	0.12	0.04	-66.67	0.02	0.01	-50.00
4.Pulses	6.09	9.02	48.11	7.77	8.49	9.27
5.Milk & Product	5.82	15.26	162.20	16.54	25.42	53.69
6.Edible Oil	6.12	9.70	58.50	8.04	12.22	51.99
7.Meat, Fish etc	5.80	9.32	60.69	2.36	4.66	97.46
8.Vegetables	7.62	11.24	47.51	7.54	11.81	56.63
9.Fruits	3.34	6.29	88.32	1.57	4.36	177.71
10.Sugar	2.45	4.25	73.47	4.56	6.23	36.62
11.Salt	0.24	0.26	8.33	0.21	0.27	28.57
12.Spices	6.59	7.89	19.73	3.68	4.59	24.73
13.Beverages	11.31	20.27	79.22	3.63	12.29	238.57
14.Pan, Tobacco etc	4.86	5.56	14.40	4.05	5.75	41.98
15.Fuel	10.34	15.17	46.71	11.44	16.37	43.09
16.Clothing	8.17	18.77	129.74	10.38	13.22	27.36
17.Foot Wear	0.64	1.67	160.94	1.70	2.84	67.06
18.Misc. Goods	26.38	59.48	125.47	23.54	47.66	102.46
19.Durables	5.04	11.78	133.73	5.03	7.11	41.35
20.Food Total	98.86	136.36	37.93	92.53	123.97	33.98
21.Non-Food Total	55.43	112.43	102.83	56.14	92.76	65.23
22.Total Exp.	154.29	248.79	61.25	148.67	216.37	45.54

COMMODITY GROUPS	WEST BENGAL			ALL INDIA		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.Cereals	55.86	44.84	-19.73	41.33	36.97	-10.55
2.Gram	0.07	0.13	85.71	0.38	0.41	7.89
3.Cereal Sub	0.07	0.03	-57.14	0.21	0.17	-19.05
4.Pulses	3.41	5.36	57.18	6.27	23.83	280.06
5.Milk & Product	6.00	16.23	170.50	13.63	13.23	-2.93
6.Edible Oil	7.92	11.52	45.45	7.88	8.85	12.31
7.Meat, Fish etc	10.59	20.24	91.12	5.11	13.12	156.75
8.Vegetables	10.61	14.75	39.02	8.23	6.27	-23.82
9.Fruits	1.39	4.03	189.93	2.57	5.86	128.02
10.Sugar	2.52	3.68	46.03	4.51	0.30	-93.35
11.Salt	0.37	0.38	2.70	0.27	5.48	1929.63
12.Spices	3.17	3.70	16.72	4.25	16.82	295.76
13.Beverages	4.44	18.83	324.10	6.18	6.53	5.66
14.Pan, Tobacco etc	4.18	8.68	107.66	5.03	16.72	232.41
15.Fuel	11.00	18.63	69.36	11.77	15.00	27.44
16.Clothing	8.29	16.98	104.83	10.52	2.69	-74.43
17.Foot Wear	0.73	1.94	165.75	1.55	58.64	3683.23
18.Misc. Goods	15.45	54.15	250.49	22.78	10.60	-53.47
19.Durables	3.80	5.34	40.53	5.64	139.75	2377.84
20.Food Total	106.12	143.73	35.44	100.82	110.18	9.28
21.Non-Food Total	43.45	105.72	143.31	57.28		-100.00
22.Total Exp.	149.87	249.45	66.44	158.10	249.93	58.08

In NSS 50th round consumer expenditure survey, there are same significant changes in the ranking of different states and also between the rural and urban areas with respect to their monthly per capita expenditure compare (Table-3.4) to that of consumer expenditure survey of 43rd round. An attempt below was made to enumerate these changes.

In case of cereals in All India rural expenditure is higher than urban expenditure. But in case of states urban expenditure is higher than that of rural in all states except Haryana, Kerala , Madhya Pradesh , Orissa, Rajsthan, Tamil Nadu and West Bengal. In all states total expenditure on food items in urban areas is more than rural areas. Urban expenditure on non food items is significantly higher than rural expenditure in all states. Rural expenditure on milk and milk products is more than urban expenditure in Haryana and Punjab only. In all other food items except some minor items like cereal substitutes etc., urban expenditure is more than rural expenditure.

In non - food items, clothing is the major commodity group in which urban expenditure is higher than rural expenditure in all states except Haryana, Punjab and Rajasthan. In case of durable goods rural expenditure is higher than urban expenditure in Haryana, Punjab and Rajsthan. In case of Pan, Tobacco and intoxicants rural expenditure is more than urban in Andhra Pradesh, Gujarat,Haryana, Karnataka , Kerala. Expenditure on miscellaneous goods in urban areas sufficiency higher than rural areas in all states. Haryana is the only state where in most non-food commodity group like pan, clothing, footwear and

Table :3.4 RURAL-URBAN DIFFERENCE IN MONTHLY PERCAPITA EXPENDITURE (50th ROUND)

COMMODITY GROUPS	ANDHRA PRADESH.			ASSAM		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	70.84	73.16	3.27	90.57	92.98	2.66
2.GRAMS	0.03	0.07	133.33	0.26	0.78	200.00
3.CEREAL SUB.	0.01	0.03	200.00	0.04	0.02	-50.00
4.PULSES.	11.05	13.91	25.88	6.84	10.65	55.70
5.MILK & PRODS.	15.29	28.22	84.57	11.55	25.88	124.07
6.EDIBLE OIL.	14.21	18.32	28.92	9.64	17.10	77.39
7.MEAT,EGG & FISH.	13.09	16.08	22.84	21.71	37.81	74.16
8.VEGETABLES.	14.52	18.16	25.07	20.83	29.46	41.43
9.FRUITS ETC.	4.76	8.34	75.21	3.00	10.31	243.67
10.SUGAR.	5.38	7.01	30.30	5.12	8.27	61.52
11.SALT.	0.52	0.59	13.46	0.78	0.85	8.97
12.SPICES.	9.83	10.16	3.36	3.98	5.47	37.44
13.BEVERAGES.	12.53	25.89	106.62	12.18	34.97	187.11
14.PAN etc.	13.58	12.13	-10.68	12.80	18.82	47.03
15.FUEL etc.	17.16	25.04	45.92	19.84	26.77	34.93
16.CLOTHING.	21.70	22.35	3.00	7.91	20.96	164.98
17.FOOT WEAR.	1.75	2.65	51.43	1.20	4.56	280.00
18.MISC.GOODS.	55.37	116.71	110.78	26.17	103.29	294.69
19.DURABLES.	7.10	9.78	37.75	3.70	10.50	183.78
20.FOOD TOTAL.	172.05	219.95	27.84	186.49	273.67	46.75
21. NON-FOOD TOTAL.	116.65	188.65	61.72	71.62	184.90	158.17
22.TOTAL EXP.	288.70	408.60	41.53	258.11	458.57	77.66

COMMODITY GROUPS	BIHAR			GUJARAT		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	80.15	80.82	0.84	50.68	51.46	1.54
2.GRAMS	1.05	2.59	146.67	0.42	0.53	26.19
3.CEREAL SUB.	0.04	0.01	-75.00	0.03	0.12	300.00
4.PULSES.	8.72	11.53	32.22	13.84	15.33	10.77
5.MILK & PRODS.	16.23	30.80	89.77	42.66	61.55	44.28
6.EDIBLE OIL.	9.86	16.23	64.60	26.49	35.03	32.24
7.MEAT,EGG & FISH.	5.77	12.77	121.32	3.17	5.58	76.03
8.VEGETABLES.	16.93	24.43	44.30	24.02	28.88	20.23
9.FRUITS ETC.	1.48	6.10	312.16	3.97	10.13	155.16
10.SUGAR.	3.89	7.13	83.29	14.38	14.10	-1.95
11.SALT.	0.59	0.72	22.03	0.30	0.35	16.67
12.SPICES.	4.61	6.07	31.67	7.45	8.20	10.07
13.BEVERAGES.	5.31	22.86	330.51	16.13	34.04	111.04
14.PAN etc.	4.72	5.82	23.31	8.88	8.35	-5.97
15.FUEL etc.	16.88	24.88	47.39	23.48	32.28	37.48
16.CLOTHING.	7.97	13.07	63.99	11.45	16.26	42.01
17.FOOT WEAR.	1.15	2.70	134.78	1.86	3.67	97.31
18.MISC.GOODS.	29.76	79.90	168.48	48.48	116.41	140.12
19.DURABLES.	2.82	4.59	62.77	5.65	11.92	110.97
20.FOOD TOTAL.	154.99	222.07	43.28	203.53	264.28	29.85
21. NON-FOOD TOTAL.	63.31	130.96	106.86	99.79	188.89	89.29
22.TOTAL EXP.	218.30	353.03	61.72	303.32	454.18	49.74

Table 3.4 Cont...

COMMODITY GROUPS	HARYANA.			KARNATAKA.		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	49.00	48.95	-0.10	61.48	69.21	12.57
2.GRAMS	0.75	1.36	81.33	0.50	0.04	-92.00
3.CEREAL SUB.	0.00	0.00	0.00	0.02	0.05	150.00
4.PULSES.	9.35	10.88	16.36	11.60	14.67	26.47
5.MILK & PRODS.	98.19	87.08	-11.31	18.31	34.65	89.24
6.EDIBLE OIL.	9.15	16.85	84.15	10.36	15.79	52.41
7.MEAT,EGG & FISH.	1.77	3.43	93.79	8.99	14.38	59.96
8.VEGETABLES.	16.95	25.25	48.97	13.15	17.59	33.76
9.FRUITS ETC.	6.10	12.62	106.89	8.57	14.54	69.66
10.SUGAR.	20.68	16.05	-22.39	9.88	10.75	8.81
11.SALT.	0.48	0.75	56.25	0.40	0.47	17.50
12.SPICES.	7.06	7.85	11.19	7.51	8.55	13.85
13.BEVERAGES.	11.78	24.26	105.94	16.16	35.30	118.44
14.PAN etc.	10.76	9.96	-7.43	11.30	9.58	-15.22
15.FUEL etc.	22.77	31.77	39.53	21.79	31.35	43.87
16.CLOTHING.	20.71	16.81	-18.83	15.93	19.53	22.60
17.FOOT WEAR.	7.64	5.57	-27.09	1.25	2.29	83.20
18.MISC.GOODS.	67.24	134.17	99.54	47.43	117.69	148.13
19.DURABLES.	24.65	20.31	-17.61	4.76	6.97	46.43
20.FOOD TOTAL.	231.24	255.33	10.42	166.93	235.73	41.21
21. NON-FOOD TOTAL.	153.76	218.58	42.16	102.45	187.41	82.93
22.TOTAL EXP.	385.01	473.92	23.09	269.38	423.14	57.08

COMMODITY GROUPS	KERALA			MADHYA PRADESH		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	68.45	64.13	-6.31	66.17	59.92	-9.45
2.GRAMS	1.06	1.55	46.23	0.44	0.60	36.36
3.CEREAL SUB.	4.19	1.86	-55.61	0.19	0.51	168.42
4.PULSES.	7.20	8.07	12.08	12.48	15.97	27.96
5.MILK & PRODS.	20.39	27.67	35.70	20.70	40.13	93.86
6.EDIBLE OIL.	11.30	12.74	12.74	11.75	20.00	70.21
7.MEAT,EGG & FISH.	33.01	40.04	21.30	4.36	7.52	72.48
8.VEGETABLES.	16.27	16.92	4.00	14.34	22.08	53.97
9.FRUITS ETC.	23.90	27.20	13.81	2.63	7.76	195.06
10.SUGAR.	9.96	10.82	8.63	7.97	12.15	52.45
11.SALT.	0.46	0.52	13.04	0.48	0.69	43.75
12.SPICES.	10.22	9.97	-2.45	5.92	7.47	26.18
13.BEVERAGES.	29.62	44.77	51.15	6.81	20.88	206.61
14.PAN etc.	13.01	11.90	-8.53	9.41	11.58	23.06
15.FUEL etc.	22.41	27.38	22.18	24.52	26.68	8.81
16.CLOTHING.	16.80	36.21	115.54	15.95	23.55	47.65
17.FOOT WEAR.	3.54	4.81	35.88	2.78	4.23	52.16
18.MISC.GOODS.	78.39	122.61	56.41	38.96	108.86	179.41
19.DURABLES.	20.23	24.64	21.80	6.17	17.48	183.31
20.FOOD TOTAL.	236.03	266.27	12.81	154.24	215.68	39.83
21. NON-FOOD TOTAL.	154.38	227.55	47.40	97.98	192.38	96.35
22.TOTAL EXP.	390.41	493.83	26.49	252.01	408.06	61.92

Table 3.4 Cont...

COMMODITY GROUPS	MAHARASTRA			ORISSA		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	48.69	60.00	23.23	85.65	79.98	-6.62
2.GRAMS	0.29	0.67	131.03	0.16	0.35	118.75
3.CEREAL SUB.	1.33	1.28	-3.76	0.07	0.03	-57.14
4.PULSES.	14.03	16.25	15.82	5.85	11.63	98.80
5.MILK & PRODS.	17.91	48.91	173.09	5.25	19.86	278.29
6.EDIBLE OIL.	16.44	27.39	66.61	6.91	13.96	102.03
7.MEAT,EGG & FISH.	8.60	17.21	100.12	9.05	20.16	122.76
8.VEGETABLES.	13.78	26.12	89.55	18.98	32.08	69.02
9.FRUITS ETC.	7.86	18.08	130.03	2.42	7.56	212.40
10.SUGAR.	12.47	12.96	3.93	3.95	7.95	101.27
11.SALT.	0.49	0.67	36.73	0.67	0.80	19.40
12.SPICES.	7.23	8.71	20.47	4.05	5.99	47.90
13.BEVERAGES.	13.05	42.65	226.82	6.56	32.24	391.46
14.PAN etc.	6.95	10.47	50.65	6.46	11.13	72.29
15.FUEL etc.	20.13	34.57	71.73	20.29	29.92	47.46
16.CLOTHING.	17.72	21.34	20.43	10.70	21.13	97.48
17.FOOT WEAR.	1.61	3.60	123.60	0.74	3.02	308.11
18.MISC.GOODS.	55.32	158.25	186.06	27.42	95.38	247.85
19.DURABLES.	8.76	20.67	135.96	4.60	9.34	103.04
20.FOOD TOTAL.	162.17	280.91	73.22	149.58	232.60	55.50
21. NON-FOOD TOTAL.	110.50	248.89	125.24	70.22	169.94	142.01
22.TOTAL EXP.	272.66	529.80	94.31	219.80	402.54	83.14

COMMODITY GROUPS	PUNJAB			RAJASTHAN		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	45.58	45.90	0.70	58.09	54.00	-7.04
2.GRAMS	1.36	1.86	36.76	0.29	0.22	-24.14
3.CEREAL SUB.	0.00	0.00	0.00	0.00	0.01	0.00
4.PULSES.	14.05	15.13	7.69	8.69	10.77	23.94
5.MILK & PRODS.	88.50	81.40	-8.02	70.55	71.98	2.03
6.EDIBLE OIL.	18.01	22.73	26.21	11.35	18.69	64.67
7.MEAT,EGG & FISH.	3.47	4.83	39.19	2.40	5.45	127.08
8.VEGETABLES.	22.32	27.34	22.49	13.98	22.82	63.23
9.FRUITS ETC.	6.84	13.30	94.44	2.96	8.95	202.36
10.SUGAR.	23.88	20.25	-15.20	13.83	14.63	5.78
11.SALT.	0.63	0.68	7.94	0.48	0.56	16.67
12.SPICES.	8.02	8.45	5.36	7.47	7.92	6.02
13.BEVERAGES.	18.11	28.91	59.64	10.74	24.65	129.52
14.PAN etc.	9.80	10.36	5.71	12.28	13.04	6.19
15.FUEL etc.	33.53	39.08	16.55	26.73	28.90	8.12
16.CLOTHING.	21.52	19.72	-8.36	15.64	15.14	-3.20
17.FOOT WEAR.	8.16	9.17	12.38	5.38	6.04	12.27
18.MISC.GOODS.	88.37	145.86	65.06	54.06	110.03	103.53
19.DURABLES.	20.83	15.77	-24.29	7.47	10.94	46.45
20.FOOD TOTAL.	250.78	270.77	7.97	200.83	240.65	19.83
21. NON-FOOD TOTAL.	182.22	239.96	31.69	121.56	184.08	51.43
22.TOTAL EXP.	433.00	510.73	17.95	322.39	424.73	31.74

COMMODITY GROUPS	TAMILNADU			UTTAR PRADESH		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	72.56	71.62	-1.30	52.96	55.00	3.85
2.GRAMS	0.71	1.00	40.85	0.75	0.89	18.67
3.CEREAL SUB.	0.05	0.03	-40.00	0.01	0.03	200.00
4.PULSES.	11.66	15.02	28.82	13.21	14.21	7.57
5.MILK & PRODS.	13.23	27.40	107.11	34.17	49.85	45.89
6.EDIBLE OIL.	11.48	15.74	37.11	11.52	15.79	37.07
7.MEAT,EGG & FISH.	12.64	18.45	45.97	4.62	7.90	71.00
8.VEGETABLES.	16.79	20.97	24.90	16.41	22.84	39.18
9.FRUITS ETC.	6.04	9.51	57.45	3.88	10.07	159.54
10.SUGAR.	4.96	7.06	42.34	9.26	11.72	26.57
11.SALT.	0.51	0.52	1.96	0.41	0.57	39.02
12.SPICES.	11.30	11.67	3.27	6.48	8.05	24.23
13.BEVERAGES.	22.54	40.02	77.55	8.29	21.12	154.76
14.PAN etc.	8.16	8.42	3.19	7.65	9.06	18.43
15.FUEL etc.	17.59	27.96	58.95	19.03	27.56	44.82
16.CLOTHING.	12.63	21.14	67.38	17.91	21.11	17.87
17.FOOT WEAR.	0.79	2.12	168.35	3.21	4.65	44.86
18.MISC.GOODS.	57.08	122.84	115.21	49.87	98.93	98.38
19.DURABLES.	12.88	16.49	28.03	7.89	9.90	25.48
20.FOOD TOTAL.	184.49	239.33	29.73	168.28	217.77	29.41
21. NON-FOOD TOTAL.	109.12	198.96	82.33	105.55	171.20	62.20
22.TOTAL EXP.	293.62	438.29	49.27	273.83	388.97	42.05

COMMODITY GROUPS	WEST BENGAL			ALL INDIA		
	RURAL	URBAN	EXCESS(%)	RURAL	URBAN	EXCESS(%)
1.CEREALS.	94.44	80.94	-14.29	68.13	64.27	-5.67
2.GRAMS	0.17	0.49	188.24	0.54	0.84	55.56
3.CEREAL SUB.	0.08	0.06	-25.00	0.28	0.30	7.14
4.PULSES.	5.68	9.05	59.33	10.72	13.92	29.85
5.MILK & PRODS.	10.59	28.12	165.53	26.72	44.87	67.93
6.EDIBLE OIL.	11.24	17.82	58.54	12.43	20.09	61.63
7.MEAT,EGG & FISH.	18.46	35.12	90.25	9.37	15.52	65.64
8.VEGETABLES.	21.35	30.18	41.36	17.01	25.00	46.97
9.FRUITS ETC.	3.24	8.74	169.75	4.89	12.17	148.88
10.SUGAR.	4.48	7.20	60.71	8.57	10.91	27.30
11.SALT.	0.68	0.86	26.47	0.52	0.63	21.15
12.SPICES.	5.49	8.02	46.08	6.91	8.79	27.21
13.BEVERAGES.	10.40	38.54	270.58	11.69	33.01	182.38
14.PAN etc.	7.39	14.12	91.07	8.97	10.74	19.73
15.FUEL etc.	19.65	34.48	75.47	20.69	30.15	45.72
16.CLOTHING.	12.74	23.00	80.53	15.12	21.43	41.73
17.FOOT WEAR.	1.56	4.53	190.38	2.48	4.19	68.95
18.MISC.GOODS.	46.32	122.94	165.41	48.70	126.03	158.79
19.DURABLES.	4.81	9.94	106.65	7.67	15.17	97.78
20.FOOD TOTAL.	186.30	265.19	42.35	177.77	250.32	40.81
21. NON-FOOD TOTAL.	92.48	209.00	125.99	103.64	207.72	100.42
22.TOTAL EXP.	278.78	474.19	70.09	103.64	458.04	341.95

durables, rural expenditure is higher than that of urban expenditure. The states where maximum difference exists between urban and rural total expenditure are Maharastra, Orissa, Assam and West Bengal respectively. In all other commodity groups the excess of urban expenditure are clearly evident form the table.

Here we emphasise on comparing the rural urban differential in monthly per capita expenditure on different commodity groups over time. Aforesaid tables are designed to compare the same for 1987-88 and 1993-94 , i.e., 43rd and 50th rounds of the N.S.S.

Broadly speaking total food expenditure in all states both in rural and urban areas is significantly higher in 1993-94 compare to 1987-88. Whereas in the latter year in Assam only, total expenditure on food items in rural areas is more than urban areas but for all other states, reverse is true in both these years. Another important findings is that excess urban expenditure over rural expenditure abridged in most states except Assam, Bihar , Karnataka, Maharastra, Punjab, and West Bengal. Thus, the traditional inequality between urban and rural expenditure seems to have been considerably abridged due to the significant pogress in the agricultural sector of different states in recent year. In both the rounds urban expenditure on non- food items is higher than rural expenditure in all states except Assam in 43rd round. In case of clothing the dominant non-food item, in both the rounds urban expenditure is higher than rural ones for all states except Punjab and Haryana, where with the increase in income in rural areas consumption of luxurious item like clothing increases. In both the rounds of survey maximum

difference exists between urban and rural total expenditure in Orissa and West Bengal.

Regional Variations in Consumption Pattern

In this analysis, we have hypothesized that there exists significant differences in consumption pattern between rural and urban regions of each state. To explain the syndrome, we have taken the help of dummy variables, whose basic methodology has been described in chapter 2. Here we explain rural-urban variation in autonomous (intercept term) induced parts of consumption (slope coefficient) simultaneously for only two commodities cereals and clothing by using the NSS consumption expenditure data of 43rd and 50th round respectively. we also attempts to explain the changes in the magnitude of variation over time.

In Economics total consumption is generally splitted into autonomous consumption and induced consumption. Autonomous consumption which normally means consumption of essential commodities is income inelastic i.e.,. even if there is no income one has to spend to get things for living. (people dissaves to maintain subsistence levels of living). On the other hand, induced consumption is income elastic i.e., when income changes consumption changes and the rate of change depends on marginal propensity to consume (MPC). Mathematically:

$$C_t = C_o + cY_t$$

where C_t is total consumption at time t, C_o is autonomous consumption, c is marginal propensity to consume, Y_t is income at time t and cy_t is induced consumption.

The empirical results obtained form testing overall differences in both intercept and slope co-efficients simultaneously by using dummy variable is analyzed below . First for cereals in both 43rd and 50th round and then for clothing. Dummy variable which has been used in the regression takes zero for rural areas and one for urban . If the regression equation turns out to be negative, the co-efficient is higher for rural areas than urban areas. If it is positive, the co efficient for urban areas are higher than rural areas.

In all the cases rural - urban differentials in consumption have been tested at 10% level of significance. In 43rd round as it is evident from table 3.5, the states where rural urban differential in autonomous consumption in cereals are significant are Andhra Pradesh , Assam, Haryana, Karnataka, Orissa, Bihar and West Bengal . At all India level this difference is significant too. Autonomous consumption is higher in urban areas than rural areas which is indicated by positive signs of d_1 values in the tables except for states like Madhya Pradesh , Orissa, West Bengal and at all India level, where the reverse is true. In 50th round the states where rural- urban differences in autonomous consumption in cereals are significant are Assam , Bihar , Haryana , Kerala, Maharastra, Orissa, Rajasthan and Tamil Nadu. Except Punjab , Haryana and M.P in all other states the value of d_1 is positive, explaining that autonomous consumption is higher in rural areas than urban areas. Though in most of the states in urban areas autonomous consumption of cereals is more compare to rural areas, for both the round of data,

they are not found to be statistically significant. Thus over time, it seems that rural autonomous consumption expenditure is increasing gradually vis-a-vis urban areas.

As it is already explained induced consumption formed an important part of total consumption because it shows changes in consumption due to changes in income. In case of cereals in 43rd round, rural - urban differences in induced consumption is significant in all the states except Kerala, Rajsthan and Maharastra. The d2 values are negative for all the states except Kerala. The negative d_2 value implies induced consumption is higher in rural areas than in urban areas.

In case of cereals, in 50th round, rural urban differences in induced consumption is significant in all states only with a few exceptions like Andhra Pradesh, Gujarat, Karnataka, and Punjab. The d_2 values are negative in all the states. To conclude, its seems that rural. Urban differentials in induced consumption is significantly high in most of the states.

In clothing (43rd round) as it is evident from the table-3.5 difference in autonomous consumption between rural and urban areas is significant in Andhra Pradesh, Assam, Bihar,Gujarat,Rajsthan and West Bengal . At all India level this difference is significant too.The states where the values of d1 is negative for clothing are Assam,Karnatak,Mahastra,Rajasthan and West Bengal .At all India level and in other states d_1 values are positive implying urban autonomous consumption of clothing is more than that of rural areas.

Table : 3.5 - REGRESSION COFFICENTS, T VALUES, AND COFFICENTS OF DETERIMANTION IN INTERCEPTAND SLOPE DUMMY REGRESSION FOR CEREALS (43rd ROUND)

STATES	a	B	t(b)	d_1	$t(d_1)$	d_2	$t(d_2)$	R^2
ANDHRA	26.867	0.074*	8.363	5.437*	1.961	-0.047*	-4.855	0.859
ASSAM	32.504	0.105*	5.369	17.041**	3.287	-0.101*	-5.056	0.597
BIHAR	39.186	0.92*	6.734	6.638*	3.501	-0.076*	-4.984	0.732
GUJARAT	17.845	0.078*	9.639	7.959	3.361	-0.065*	3.361	0.84
HARYANA	19.923	0.057*	9.719	5.485*	2.907	-0.042*	6.440	0.853
KARNATAKA	25.579	0.072*	7.081	6.098*	1.78	-0.052*	-4.648	0.769
KERALA	32.675	0.063*	5.639	3.904	1.015	3.904	1.015	0.752
M.P	31.621	0.058*	6.657	-1.122	-0.399	-0.041*	-4.124	0.78
MAHARASHTRA	24.848	0.033*	6.968	0.273	0.125	-8.343	-1.358	0.825
ORISSA	42.357	0.086*	6.177	0.061*	-3.926	-0.013*	-2.003	0.734
PUNJAB	15.774	0.040*	6.877	3.049	1.537	-0.016*	-2.326	0.821
RAJSTHAN	23.297	0.058*	3.3	2.635	0.583	-0.023	-1.085	0.535
T.N	32.007	0.074*	5.157	1.735	0.332	-0.034*	-1.732	0.625
U.P	27.734	0.52*	6.716	2.467	1.01	-0.041*	-4.813	0.734
W.B	39.442	0.096*	5.583	-3.471*	-3.592	-0.080*	-4.077	0.728
ALL INDIA	32.053	0.053*	6.449	-0.535*	-0.2	-0.034*	-3.817	0.767

d_1 = Intercept Dummy regression
d_2 = Slope of dummy regression.
* significant at 10 per-cent level of significance.

REGRESSION COEFFICIENT, T VALUES, AND COEFFICIENTS OF DETERMINATION IN INTERCEPT AND SLOPE DUMMY REGRESSION FOR CEREALS. (50TH ROUND)

STATES	a	b	t(b)	d_1	$t(d_1)$	d_2	$t(d_2)$	R^2
ANDHRA	45.615	0.08*	6.706	5.603	0.752	-0.221	-1.223	0.759
ASSAM	53.64	0.120*	6.154	31.455*	3.076	-0.104*	-4.007	0.817
BIHAR	59.767	0.091*	7.075	15.305*	2.592	-0.075*	5.232	0.74
GUJARAT	30.333	0.058*	4.728	4.984	0.785	-0.021	1.365	0.642
HARYANA	34.574	0.034*	4.866	-7.009*	1.72	-0.019*	-1.945	0.776
KARNATAKA	38.85	0.077*	5.351	9.459	1.224	-0.026	-1.390	0.702
KERALA	38.703	0.069*	5.452	13.144*	2.143	-0.049*	-3.594	0.674
M.P	52.277	0.051*	4.961	-0.573	-0.111	-0.034*	-2.984	0.676
MAHARASHTRA	28.286	0.073*	7.199	16.699*	3.259	-0.048*	-4.155	0.796
ORISSA	69.971	0.072*	4.355	7.947*	0.897	-0.071*	-2.474	0.585
PUNJAB	87.756	0.057*	0.537	-53.505	-0.99	-0.077	-0.628	0.52
RAJSTHAN	42.929	0.037*	3.926	4.936*	1.04	-0.027*	-2.474	0.49
T.N	52.895	0.062*	4.363	3.920*	0.535	-0.033	-2.075	0.639
U.P	47.511	0.040*	7.559	0.95	0.38	-0.024*	-4.044	0.831
W.B	69.905	0.077*	6.534	2.679	0.43	-0.062	-4.561	0.75
ALL INDIA	50.48	0.052*	5.151	8.204	1.651	-0.038*	-3.334	0.625

REGRESSION COEFFICIENTS, T VALUES AND COEFFICIENTS OF DETERIMINATION IN INTERCEPT AND SLOPE DUMMY REGRESSION FOR CLOTHING. (43rd ROUND)

STATES	a	b	t(b)	d_1	$t(d_1)$	d_2	$t(d_2)$	R^2
ANDHRA	-23.703	0.246*	17.37	12.490*	2.84	-0.116*	-7.549	0.974
ASSAM	-4.166	0.064	0.402	-152.756*	-3.615	0.661*	4.044	0.96
BIHAR	-34.143	0.309*	14.95	18.047	2.7	-0.184*	-7.993	0.949
GUJARAT	-12.307	0.119*	11.17	5.595	1.788	-0.055*	-4.688	0.935
HARYANA	-18.890	0.181*	11.1	1.173	0.224	-0.033*	-1.807	0.956
KARNATAKA	-15.305	0.162*	7.197	-0.431	-0.057	-0.016	-0.678	0.925
KERALA	-8.827	0.096*	9.854	1.88	0.502	-0.02*	-1.814	0.935
M.P	-13.816	0.172*	9.368	9.477	1.597	-0.092*	-4.352	0.878
MAHARASHTRA	-6.459	0.114*	19.61	-3.809	-1.458	0.018*	-2.483	0.976
ORISSA	-11.543	0.149*	16.81	1.316	0.477	-0.037*	-3.758	0.976
PUNJAB	16.185	0.144*	15.29	6.245*	1.944	-0.052*	-4.703	0.958
RAJSTHAN	-4.795	0.103*	4.807	-9.933*	-1.794	0.024	0.939	0.849
T.N	-9.705	0.119*	2.304	10.829	0.579	4.864	0.007	0.385
U.P	-9.814	0.143*	20.13	1.549	0.694	-0.054*	-5.767	50.98
W.B	-7.486	0.112*	7.654	-13.166*	-2.633	0.039*	2.338	0.954
ALL INDIA	13.481	0.153*	20.1	12.699	5.166	0.137*	-16.353	0.958

REGRESSION COEFFICIENTS, T VALUES,F VALUES, AND COEFFICIENTS OF DETERRMINATION IN INTERCEPTS DUMMY REGRESSION FOR CLOTHING. (50th ROUND)

STATES	a	b	t(b)	d_1	$t(d_1)$	d_2	$t(d_2)$	R^2
ANDHRA	-34.059	0.201*	5.826	7.9	0.391	-0.053	-1.094	0.727
ASSAM	-16.555	0.112*	4.499	9.581	0.735	-0.036	-1.111	0.639
BIHAR	-22.939	0.142*	10.45	-2.619	-0.419	-0.035*	-2.320	0.946
GUJARAT	-22.105	0.122*	4.298	-3.288	-0.223	-4.132	-0.112	0.693
HARYANA	-16.674	0.099*	3.974	15.315	1.073	-0.044	-1.278	0.523
KARNATAKA	-36.111	0.198*	5.62	20.905	1.103	-0.093*	-1.988	0.826
KERALA	-15.601	0.088*	9.715	-7.094	-1.608	-0.032*	3.227	0.99
M.P	-23.142	0.157*	23.82	1.026	0.318	-0.043*	-5.921	0.989
MAHARASHTRA	-27.537	0.168*	12.35	34.379*	5	-0.166*	-10.691	0.892
ORISSA	-9.907	0.097*	5.313	-25.139*	-2.569	0.156*	4.895	0.864
PUNJAB	-21.744	0.108*	9.71	0.669	0.12	-0.021	-1.707	0.935
RAJSTHAN	-20.971	0.119*	15.93	1.606	0.427	-0.035*	-4.078	0.97
T.N	18.032	0.107*	13.81	-5.206	-1.308	-4.116	-0.475	0.978
U.P	-20.648	0.143*	11.21	-9.072	-1.511	-0.012	-0.857	0.965
W.B	-14.322	-0.103*	14.71	-4.165	-1.136	-0.013	-1.671	0.972
ALL INDIA	-7.213	0.071*	6.593	-8.038	-1.52	0.016	1.358	0.938

* Significant at 10 percent level of Significance

In 50th rounds., baring states like Andhra Pradesh, Assam, Haryana, Karnataka, Madhya Pradesh and Rajsthan in all other states the $d_1$values are negative. This is true for all-India level too. Only in Maharastra (d_1 is positive) and Orissa (d_1 is negative) the variation seems to be significant.

From the above, we can conclude that baring a few exception over time autonomous consumption expenditure for clothing in rural areas increases compare to urban areas, though the difference is not statistically significant.

For clothing in 43rd round, difference in induced consumption between rural and urban areas are not significant only in Karnataka, Rajsthan, and Tamil Nadu but for other states they are found to be significant. For all the states except a few, the d2 value is negative implying that urban total expenditure are lower than that of rural ones for clothing. On the other hand in 50th round (1993-94) the above difference is significant only in Bihar,Karnataka, Kerala,Madhya Pradesh, Maharastra and Orissa and Rajsthan. For all the states except Orissa, the d_2 value is negative . Thus, we can infer from the above that, in rural areas changes in induced consumption for clothing is rapid and significant when income changes comparing to urban areas, but the magnitude of variation lessened over time.

Thus, the above analysis of clothing's confirms high rural-urban variation in terms of slopes coefficients and intercept terms. And if we clubbed together findings of both the rounds for cereals and clothing, the obvious conclusion is that, rural-urban differences in total consumption expenditure is more for clothing than for cereals.

Chapter - 4

ON THE SUITABILITY OF DIFFERENT ENGEL FUNCTIONS AND THEIR EXPENDITURE ELASTICITIES

The present chapter provides an indepth analysis of suitability of different Engel Functions for cereals and clothing at the state level as well as regional (rural-urban) level in India in the first section. The analysis is, however, confined to fifteen major states and also at all-India level. The published NSS data of household consumption expenditure collected during 50^{th} round constitute the basic data for analysis in the first section. Expenditure elasticities of cereals and clothing and their inter-state variations are analyzed in the second section by using seven different form of the Engel functions. The NSS data published during 43^{rd} and 50^{th} round respectively form the basic data for the analysis in the second section.

On the Suitability of Different Engel Functions

In India most of the empirical investigations on consumer behaviour starts with the customary procedure of first determining suitable relationship between income (total expenditure) and particular item of expenditure. Out of different algebraic form of Engel functions this study is based on seven different algebraic formulations as no single form tuns out to be adequate for all commodities, for all times and for all areas or states. The field is still wide open to experimentation.

In determining suitable relationships from several ones one has to strike a balance between number of factors. This involves several economic and statistical considerations. A basic condition which may any function should meet in order to qualify itself is that, it should be valid over the whole or at least a greater part of

the income studies.

Out of different statistical criteria for comparing different functions the square of correlation coefficient R^2 associated with each form i.e. coefficients of determination for judging the suitability of functions have been used. Greater the value of R^2 the Function is more suitable than others. But strictly speaking, the R^2 obtained from seven functional forms are not comparable unless the dependent variables is suitably transferred, say, on the lines of the Box-Cox transformation. However, in actual practice, such an adjustment has a very negligible effect on the value of R^2. On the other hand, R^2 value of two functional forms fitted from different number of observations are not comparable. However, in the present study number of observations are same for all cases and the suitability of functions are judged from the values of R^2. The results are explained below for cereals and clothing for different states.

From a glance at the figures cited in table-4.1 it emerged that in most states the behaviour of consumption of cereals and total expenditure are well expressed by log-log inverse function, (Function.5) which says that, the income elasticity is increasing if c is greater than zero. This particular function was also found suitable by Sinha (1966), Maitra (1989) and Bhattacharya and Maitra for various food items. The next best suitable function was found to be log quadratic log (Function.7) in most of the states for cereals, according to which, income elasticity is proportional to logarithm of total expenditure and hence changes in it are expected to be slow. Function (1) and (6) found to be unsuitable for cereals in all states as evident from the value of R^2, which contradicts the earlier studies made by Gupta (1968).

Table 4.1 : REGRESSION COEFFICIENTS FOR VARIOUS ENGEL FUNCTIONS CEREALS (50TH ROUND)

ANDHRA PRADESH (RURAL)						
Function	A	b	t(b)	c	t(c)	R^2
1. Linear	45.615	0.080*	6.816			0.822
2. Hyperbolic	105.12	7530.163*	12.028			0.935
3. Semi Log	-108.123	-74.25*	29.949			0.988
4. Log Inv	2.063	50.624*	34.396			0.991
5. Log Log Inv	1.739	0.113*	4.781	39.469*	15.948	0.997
6. Log Linear	0.699	0.47*	11.59			0.93
7. Log Qrd log	-1.607	2.36*	11.656	0.382*	9.353	0.993

ANDHRA PRADESH (URBAN)						
Function	A	b	t(b)	c	t(c)	R^2
1. Linear	52.218	0.058*	4.386			0.657
2. Hyperbolic	102.439	8322.194*	8.287			0.872
3. Semi Log	82.752	62.003*	7.255			0.840
4. Log Inv	2.038	52.783*	11.163			0.925
5. Log Log Inv	2.049	-3.621	-0.026	53.242*	2.496	0.925
6. Log Linear	0.885	0.384*	7.651			0.854
7. Log Qrd log	-2.126	2.772*	4.005	0.469*	3.453	0.937

ASSAM (RURAL)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	54.68	0.118*	5.748			0.767
2. Hyperbolic	118.217	6047.264*	5.267			0.735
3. Semi Log	-17.581	45.515*	4.437			0.633
4. Log Inv	2.095	33.764	5.851			0.773
5. Log Log Inv	4.378	-0.775*	-2.872	130.832**	3.839	0.882
6. Log Linear	1.34	0.225*	4.706			0.688
7. Log Qrd log	1.34	0.252*	4.706	0.283*	7.213	0.688

ASSAM (URBAN)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	79.213	0.026	1.525			0.188
2. Hyperbolic	109.424	5860.266**	3.757			0.585
3. Semi Log	-2.985	36.579*	2.576			0.398
4. Log Inv	2.051	30.917*	4.454			0.664
5. Log Log Inv	3.187	-0.383*	2.576	79.594*	4.042	0.793
6. Log Linear	1.456	0.193**	2.901			0.456
7. Log Qrd log	-2.865	3.615*	4.765	0.671*	4.516	0.833

BIHAR (RURAL)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	59.767	0.091*	6.433			0.805
2. Hyperbolic	121.692	7607.039*	17.027			0.966
3. Semi Log	-93.157	79.96*	16.031			0.962
4. Log Inv	2.119	41.763*	26.465			0.985
5. Log Log Inv	2.119	9.973	-0.002	41.753*	7.557	0.985
6. Log Linear	0.983	0.393*	9.313			0.896
7. Log Qrd log	-1.422	2.385*	6.005	0.408*	5.024	0.972

* Implies significant at 5 percent level .

** Implies significant at 10 percent level .

Table 4.1 Contd.....

BIHAR (URBAN)						
Function	A	B	t(b)	c	t(c)	R^2
1. Linear	57.057	0.015**	2.715			0.424
2. Hyperbolic	96.449	4316.697*	10.228			0.912
3. Semi Log	17.708	25.143*	4.957			0.71
4. Log Inv	1.992	24.233	9.805			0.905
5. Log Log Inv	2.331	'-0.111**	-3.057	40.197*	7.226	0.953
6. Log Linear	1.555	0.138*	4.637			0.682
7. Log Qrd Log	-0.28	1.550*	6.126	0.267*	5.587	0.928

GUJURAT (RURAL)						
Function	A	B	t(b)	c	t(c)	R^2
1. Linear	30.333	0.058*	5.615			0.759
2. Hyperbolic	70.999	5106.707*	17.758			0.969
3. Semi Log	-71.535	49.618*	14.568			0.955
4. Log Inv	1.899	51.849	34.131			0.991
5. Log Log Inv	1.958	-0.02	-0.405	58.784*	10.269	0.991
6. Log Linear	0.504	0.481*	9.174			0.893
7. Log Qrd Log	-2.844	3.25*	12.347	0.566*	10.534	0.992

GUJURAT (URBAN)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	35.315	0.036**	3.151			0.498
2. Hyperbolic	68.613	5620.644	5.766			0.768
3. Semi Log	51.298	39.828*	4.63			0.681
4. Log Inv	10.871	55.922*	7.191			0.838
5. Log Log Inv	2.717	-0.285	-1.369	92.935*	3.337	0.865
6. Log Linear	0.708	0.384*	4.832			0.7
7. Log Qrd Log	-3.977	4.096**	3.462	0.728***	3.141	0.856

HARYANA (RURAL)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	34.574	0.034*	6.484			0.807
2. Hyperbolic	60.152	3244.004	11.599			0.93
3. Semi Log	-30.352	31.441*	15.456			0.959
4. Log Inv	1.8	33.056*	14.915			0.956
5. Log Log Inv	1.586	0.074	1.171	25.638	3.287	0.962
6. Log Linear	0.911	0.306*	9.589			0.901
7. Log Qrd Log	-0.468	1.438*	3.734	0.229**	2.944	0.95

HARYANA (URBAN)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	41.584	0.015**	1.894			0.264
2. Hyperbolic	58.31	3175.724**	4.272			0.645
3. Semi Log	-3.051	20.033	3.032			0.478
4. Log Inv	1.777	31.023*	4.658			0.684
5. Log Log Inv	2.835	-0.355	-2.398	77.775*	4.84	0.478
6. Log Linear	0.185	0.192**	3.113			0.807
7. Log Qrd Log	-2.938	3.445*	4.372	0.635*	4.133	0.824

* Implies significant at 5 percent level ..

** Implies significant at 10 percent level .

Table 4.1 Contd.....

KARNATAKA (RURAL)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	38.85	0.77*	5.197			0.724
2. Hyperbolic	94.083	7112.535*	14.65			0.955
3. Semi Log	-102.621	68.536	12.593			0.94
4. Log Inv	2.028	55.557*	27.335			0.986
5. Log Log Inv	2.062	-0.111	-0.175	56.707*	8.21	0.986
6. Log Linear	0.543	0.511*	8.916			0.888
7. Log Qrd Log	-3.019	3.449*	12.519	0.599*	-10.68	0.991

KARNATAKA (URBAN)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	48.31	0.050*	4.086			0.625
2. Hyperbolic	93.768	7595.742*	15.996			0.962
3. Semi Log	-70.794	54.827	7.815			0.859
4. Log Inv	2.008	55.062*	15.644			0.96
5. Log Log Inv	2.674	-0.225*	-3.197	83.425*	9.04	0.981
6. Log Linear	0.84	0.387*	6.631			0.814
7. Log Qrd Log	-3.561	3.881*	10.391	0.687*	-9.366	0.982

KERALA (RURAL)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	38.703	0.069*	5.583			0.757
2. Hyperbolic	90.946	6768.282*	18.628			0.971
3. Semi Log	-94.87	64.341*	16.463			0.964
4. Log Inv	2.012	55.418*	43.831			0.944
5. Log Log Inv	2.107	-0.333	-0.88	*58.716	14.83	0.995
6. Log Linear	0.562	0.497*	8.512			0.878
7. Log Qrd Log	-2.844	3.292*	10.084	0.566*	8.578	0.986

KERALA (URBAN)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	51.847	0.019*	3.308			0.522
2. Hyperbolic	81.847	6271.700*	24.726			0.983
3. Semi Log	-33.893	36.927*	7.847			0.86
4. Log Inv	1.937	48.887*	25.055			0.984
5. Log Log Inv	2.13	-0.063*	-2.315	58.155*	13.454	0.99
6. Log Linear	1.065	0.276	6.18			0.792
7. Log Qrd Log	-1.491	2.209*	10.175	0.360*	8.924	0.978

MADHYA PRADESH.(RURAL)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	52.277	0.051*	4.254			0.644
2. Hyperbolic	93.446	5485.534*	22.281			0.98
3. Semi Log	-53.108	50.45	9.001			0.89
4. Log Inv	2.004	39.111*	19.474			0.974
5. Log Log Inv	2.315	-0.109*	-2.174	49.781*	9.575	0.983
6. Log Linear	0.995	0.344*	6.562			0.811
7. Log Qrd Log	-1.48	2.672*	6.888	0.472*	6.012	0.962

* Implies significant at 5 percent level.

** Implies significant at 10 percent level.

Table 4.1 Contd.....

MADHYA PRADESH (URBAN)						
Function	A	b	t(b)	c	t(c)	R^2
1. Linear	51.703	0.017*	4.238			0.642
2. Hyperbolic	75.671	4746.002*	11.023			0.923
3. Semi Log	-14.831	29.077*	8.066			0.866
4. Log Inv	1.892	36.512*	13.037			0.944
5. Log Log Inv	1.892	-9.369	-0.002	36.526	4.53	0.944
6. Log Linear	1.221	0.214*	6.698			0.817
7. Log Qrd Log	-0.2	1.291*	3.746	0.201**	3.132	0.912

MAHARASTRA (RURAL)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	28.286	0.073*	7.444			0.847
2. Hyperbolic	80.44	6410.264*	9.48			0.906
3. Semi Log	-106.41	65.403*	36.74			0.992
4. Log Inv	1.961	60.853*	25.916			0.985
5. Log Log Inv	1.448	0.810*	4.458	43.449*	10.484	0.995
6. Log Linear	0.287	0.579*	12.47			0.939
7. Log Qrd Log	2.383	2.775*	13.525	0.446	-10.723	0.995

		MAHARASTRA (URBAN)				
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	44.985	0.025*	4.461			0.665
2. Hyperbolic	77.351	6210.292*	23.811			0.982
3. Semi Log	-44.13	39.296*	11.474			0.929
4. Log Inv	1.913	51.639*	34.408			0.991
5. Log Log Inv	1.976	-0.02	-0.713	54.618*	12.237	0.992
6. Log Linear	0.939	0.312*	7.843			0.86
7. Log Qrd Log	-1.538	2.207*	9.431	0.357*	8.11	0.983

		ORISSA (RURAL)				
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	69.971	0.072*	3.881			0.6
2. Hyperbolic	123.442	69.217*	26.292			0.985
3. Semi Log	63.846	64.675	7.905			0.862
4. Log Inv	2.122	36.859*	19.85			0.975
5. Log Log Inv	2.627	-0.177	-7.027	53.932	21.166	0.996
6. Log Linear	1.153	0.332*	6.451			0.806
7. Log Qrd Log	2.202	3.114*	17.622	0.570*	15.765	0.993

ORISSA.(URBAN)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	77.918	0.024	4.914			0.6
2. Hyperbolic	85.658	1547.512	1.548			0.193
3. Semi Log	87.619	8.663	0.726			0.5
4. Log Inv	1.937	9.635	1.634			0.21
5. Log Log Inv	4.13	-0.785*	-7.824	78.910*	8.643	0.898
6. Log Linear	1.757	0.056	0.793			0.059
7. Log Qrd Log	-3.687	4.690*	8.475	0.978*	8.382	0.893

* Implies significant at 5 percent level..

**Implies significant at 10 percent level.

Table 4.1 Contd.....

PUNJAB.(RURAL)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	87.756	0.057	- 0.380			0.514
2. Hyperbolic	56.036	-313.008	- 0.222			0.614
3. Semi Log	183.956	-47.271**	0.371			0.782
4. Log Inv	1.776	21.529*	- 0.521			0.521
5. Log Log Inv	3.933	-0.748*	- 0.582	100.262	0.707	0.93
6. Log Linear	1.395	0.117*	0.372			0.891
7. Log Qrd Log	2.687	3.446	- 0.213	0.671	0.493	0.509

PUNJAB (URBAN)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	34.25	0.019*	6.139			0.79
2. Hyperbolic	57.336	4299.195*	10.392			0.915
3. Semi Log	-27.47	27.575*	13.897			0.95
4. Log Inv	1.772	44.148*	13.353			0.946
5. Log Log Inv	1.457	0.103	1.688	28.567**	2.94	0.959
6. Log Linear	0.925	0.273*	10.791			0.92
7. Log Qrd Log	-0.321	1.226*	3.478	0.179**	2.705	0.956

RAJASTHAN (RURAL)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	49.924	0.037*	3.413			0.538
2. Hyperbolic	74.38	4412.093*	19.142			0.973
3. Semi Log	-36.992	37.916*	6.845			0.824
4. Log Inv	1.903	38.967*	15.633			0.96
5. Log Log Inv	2.508	-0.210*	-5.746	60.448*	15.378	0.991
6. Log Linear	0.941	0.325*	5.792			0.77
7. Log Qrd Log	-2.57	3.201*	12.307	0.582*	11.074	0.984

RAJASTHAN (URBAN)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	47.866	0.010**	2.301			0.346
2. Hyperbolic	62.847	3165.248*	9.295			0.896
3. Semi Log	7.843	17.402*	4.25			0.643
4. Log Inv	1.809	28.398*	8.37			0.875
5. Log Log Inv	2.406	-0.196*	-6.508	57.002*	12.272	0.978
6. Log Linear	1.321	0.154**	3.969			0.611
7. Log Qrd Log	-1.219	2.102*	7.658	0.369*	7.109	0.941

TAMILNADU (RURAL)						
Function	a	B	t(b)	c	t(c)	R^2
1. Linear	52.895	0.062*	4.393			0.658
2. Hyperbolic	104.152	6910.55*	17.641			0.968
3. Semi Log	-81.3	63.836*	0.96			0.922
4. Log Inv	2.057	45.995*	29.216			0.988
5. Log Log Inv	2.169	-0.039	-0.886	49.907*	10.629	0.989
6. Log Linear	0.87	0.404*	7.669			0.855
7. Log Qrd Log	-2.091	2.824*	11.424	0.488*	9.833	0.987

* Implies significant at 5 percent level.

** Implies significant at 10 percent level

Table 4.1 Contd.....

TIMILNADU.(URBAN)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	56.815	0.029*	4.02			0.617
2. Hyperbolic	96.576	7568.057*	19.485			0.88
3. Semi Log	-58.547	50.379*	10.887			0.974
4. Log Inv	2.015	52.869*	44.632			0.922
5. Log Log Inv	2.046	-0.01	-0.475	54.225*	17.367	0.995
6. Log Linear	0.986	0.330*	7.033			0.831
7. Log Qrd Log	-1.539	2.261*	9.683	0.363*	8.288	0.98

UTTAR PRADESH. (RURAL)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	45.511	0.04*	6.523			0.809
2. Hyperbolic	75.838	3547.816*	15.964			0.962
3. Semi Log	-22.824	34.308	16.622			0.965
4. Log Inv	1.894	27.043*	22.04			0.979
5. Log Log Inv	1.743	0.052	1.419	21.832*	5.664	0.983
6. Log Linear	1.161	0.253*	11.086			0.924
7. Log Qrd Log	-0.049	1.252*	5.081	0.203*	4.059	0.973

UTTAR PRADESH.(URBAN)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	49.552	0.014*	5.905			0.777
2. Hyperbolic	56.728	24.226	0.306			0.009
3. Semi Log	48.242	3.45	2.324			0.157
4. Log Inv	1.75	0.155	0.253			0.006
5. Log Log Inv	1.203	0.203*	9.809	-5.422*	-9.049	0.915
6. Log Linear	1.688	0.025	1.285			0.141
7. Log Qrd Log	1.745	-0.163*	-7.023	0.062*	8.492	0.904

WEST BENGAL. (RURAL)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	69.905	0.077*	5.331			0.739
2. Hyperbolic	133.719	8654.996*	17.321			0.967
3. Semi Log	-91.653	77.25	13.425			0.917
4. Log Inv	2.156	42.173*	25.798			0.985
5. Log Log Inv	2.112	0.015	0.314	40.59*	7.625	0.985
6. Log Linear	1.093	0.361*	9.031			0.89
7. Log Qrd Log	-1.234	2.252*	8.01	0.379*	6.737	0.981

WEST BENGAL. (URBAN)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	72.585	0.014**	3.04			0.48
2. Hyperbolic	92.326	3876.001*	7.316			0.84
3. Semi Log	20.544	22.97*	4.689			0.687
4. Log Inv	1.972	22.761*	6.841			0.823
5. Log Log Inv	2.213	-0.079	-1.268	34.086**	3.59	0.85
6. Log Linear	1.56	0.131**	4.187			0.636
7. Log Qrd Log	0.228	1.152**	2.756	0.193**	6.217	0.781

* Implies significant at 5 percent level.

** Implies significant at 10 percent level.

Table 4.1 Contd.....

ALL INDIA. (RURAL)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	52.219	0.047**	4.161			0.633
2. Hyperbolic	90.616	5008.416*	40.489			0.993
3. Semi Log	-41.644	45.446	8.886			0.887
4. Log Inv	1.985	35.571*	21.548			0.978
5. Log Log Inv	2.327	-0.119**	-3.57	47.393*	13.558	0.991
6. Log Linear	1.073	0.311*	6.595			0.813
7. Log Qrd Log	-1.636	2.537*	8.118	0.472*	7.136	0.971

ALL INDIA. (URBAN)						
Function	a	b	t(b)	c	t(c)	R^2
1. Linear	55.784	0.016**	3.547			0.557
2. Hyperbolic	77.945	4042.748*	7.229			0.839
3. Semi Log	-4.822	26.9*	6.126			0.789
4. Log Inv	1.902	29.43*	6.726			0.818
5. Log Log Inv	1.878	8.11	0.091	28.324**	2.175	0.819
6. Log Linear	1.315	0.189*	5.123			0.724
7. Log Qrd Log	0.089	1.133**	2.364	0.178**	1.972	0.807

In rural regions for cereals, function (3), (4), (5) and (7) are suitable with a few exceptions. Functions (2) is most suitable in case of all-India rural areas. (R2 = 0.993) function (6) is found to be unsuitable in most of the states. Function (5) is most suitable for Andhra Pradesh, Assam Bihar, Haryana, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu, Orissa, Rajasthan, Kerala, Uttar Pradesh and West Bengal. Function (7) is most suitable for Gujarat, Karnataka, Maharashtra, and Rajasthan and suitable for other state. To conclude, log-log Inverse function(function.5) is the most suitable function for cereals in rural areas.

As far as cereals, in Urban region is concerned, Function (2), (4), (5) and (7) are found to be suitable. Function (3) is unsuitable in most states case, except Tamil Nadu and Punjab. Function (2) is suitable for Andhra Pradesh, Bihar, Kerala, Karnataka, Maharashtra and Tamil Nadu. But most suitable in case of all-India Urban region. Function (4) is most suitable for Tamil Nadu, but suitable only

in Karnataka2, Kerala, Madhya Pradesh, Maharashtra, Punjab and West Bengal. Function (5) shows the same result as is the case of cereals in rural region. It is most suitable for higher number of states in urban areas. The states are Bihar, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu,Uttar Pradesh and West Bengal. Simultaneously, it is suitable for number of states. Function (7) is most suitable in urban regions of states like Andhra Pradesh, Assam, Gujarat, Haryana and Karnataka, and suitable in Bihar, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan and Tamil Nadu and Uttar Pradesh. To conclude, it was found that log-log inverse function(function.5) is the most suitable for cereals in urban region too.

In India clothing is still considered as luxurious item and it is expected that with increase in income, expenditure on clothing remain constant or increases over time. So function giving constant MPC are found to be suitable in this case. It is evident from Table-4.2 that function (2) and (3) is unsuitable for clothing in all the states and function (2) is the function giving lowest value of R2 for clothing. Function (4), though not suitable in case of most states, but was found suitable for AP, Bihar, Orissa, UP, West Bengal, and all- India. function (1), (6), (7) are suitable. In most cases function (5) is also suitable. Function (7) is the most suitable for clothing in most of the states in rural areas. The value of R2 of this function is quite high in states like AP, Bihar, Kerala, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar pradesh, West Bengal and also for all India as a whole. Function (1) is most suitable for Assam, Haryana, Kerala and M.P.

Table 4.2 : REGRESSION COEFFICIENTS FOR VARIOUS ENGEL FUNCTIONS CLOTHING (50TH ROUND)

ANDHRA (RURAL)						
Function	a	b	t[b]	c	t[c]	R2
1.Linear	-34.059	0.202*	14.956			0.965
2.Hyperbolic	84.244	12242.748**	2.909			0.458
3.Semi- Log	-337.998	152.185*	5.79			0.77
4.Log Inv.	2.029	291.752*	10.165			0.912
5.Log-Log Inv.	-4.006	2.175*	4.513	77.878	1.549	0.972
6.Log Linear	-6.058	2.879*	16.79			0.966
7.Log Qrd Log	-11.934	7.694**	2.626	0.975**	2.103	0.988

ANDHRA (URBAN)						
	a	B	t[b]	c	t[c]	R^-
1.Linear	-26.159	0.149*	3.226			0.51
2.Hyperbolic	84.818	15420.561**	2.38			0.361
3.Semi- Log	-305.641	133.509**	2.978			0.47
4.Log Inv.	2.453	441.36*	10.928			0.923
5.Log-Log Inv.	0.847	0.542	0.468	372.717**	2.444	0.924
6.Log Linear	-7.303	3.263*	8.349			0.874
7.Log Qrd Log	-26.929	18.822**	2.967	3.057**	2.456	0.924

ASSAM (RURAL)						
	a	b	t[b]	c	t[c]	R^-
1.Linear	-19.406	0.12*	9.437			0.899
2.Hyperbolic	31.71	3381.564**	1.988			0.283
3.Semi- Log	-51.879	28.754**	2.199			0.326
4.Log Inv.	1.402	119.007*	3.532			0.555
5.Log-Log Inv.	0.119	0.435	0.2	64.512	0.235	0.557
6.Log Linear	-1.378	0.942**	3.526			0.554
7.Log Qrd Log	-1.278	0.842**	0.538	0.491**	0.439	0.514

ASSAM (URBAN)						
	a	b	t[b]	c	t[c]	R^-
1.Linear	-7.615	0.077**	2.906			0.458
2.Hyperbolic	53.44	9101.727**	2.64			0.411
3.Semi- Log	-165.097	74.139**	3.018			0.477
4.Log Inv.	2.05	309.239*	6.406			0.804
5.Log-Log Inv.	-0.735	0.94	0.708	189.903	1.081	0.814
6.Log Linear	-4.866	2.318*	6.139			0.79
7.Log Qrd Log	-16.072	11.189	1.563	0.74	1.241	0.82

* Implies significant at 5 percent level.

**Implies significant at 10 percent level.

Table 4.2 Contd.....

BIHAR (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-22.939	0.142*	16.642			0.967
2.Hyperbolic	55.008	7820.335**	3.159			0.499
3.Semi- Log	-211.949	96.307*	5.901			0.777
4.Log Inv.	2.009	247.089*	9.67			0.903
5.Log-Log Inv.	-4.651	2.342*	5.669	20.862	0.499	0.978
6.Log Linear	-5.219	2.539*	21.222			0.978
7.Log Qrd Log	-7.739	4.626**	2.222	0.427	1.004	0.98

BIHAR (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-22.559	0.107*	12.295			0.938
2.Hyperbolic	69.185	13432.86**	2.676			0.417
3.Semi- Log	-271.765	115.387*	4.91			0.707
4.Log Inv.	2.101	356.107*	14.877			0.957
5.Log-Log Inv.	-1.225	1.094**	3.134	199.62**	3.774	0.979
6.Log Linear	-5.076	2.338	13.316			0.947
7.Log Qrd Log	-13.55	8.85**	3.919	1.235**	2.886	0.972

GUJRAT (RURAL)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-22.105	0.122*	9.889			0.907
2.Hyperbolic	42.772	6262.817**	2.542			0.392
3.Semi- Log	-178.205	80.119**	4.509			0.67
4.Log Inv.	1.681	214.184*	5.765			0.769
5.Log-Log Inv.	-8.645	3.627*	9.498	-139.036**	-3.564	0.979
6.Log Linear	-4.893	2.33*	13.7			0.949
7.Log Qrd Log	2.999	-4.193**	-1.887	1.334	2.94	0.96

GUJRAT (URBAN)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-25.393	0.118**	3.736			0.582
2.Hyperbolic	60.703	11524.303**	2.355			0.386
3.Semi- Log	-238.457	102.595	3.159			0.499
4.Log Inv.	2.475	568*	8.899			0.888
5.Log-Log Inv.	1.804	0.226	0.12	539.071**	2.158	0.888
6.Log Linear	-9.916	4.132*	6.991			0.83
7.Log Qrd Log	-35.905	24.72	2.309	4.041	1.925	0.879

* Implies significant at 5 percent level.

** Implies significant at 10 percent level.

Table 4.2 Contd.....

HARYANA (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-16.675	0.099*	15.722			0.961
2.Hyperbolic	41.119	5953.729**	2.895			0.456
3.Semi- Log	-162.883	73.484*	5.665			0.762
4.Log Inv.	1.613	209.329*	3.784			0.589
5.Log-Log Inv.	-9.725	3.965*	3.638	-183.57	-1.603	0.833
6.Log Linear	-4.897	2.308*	6.057			0.786
7.Log Qrd Log	2.983	4.154*	-0.685	1.309	1.068	0.899

HARYANA (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-1.36	0.055**	1.655			0.215
2.Hyperbolic	41.711	6368.322	1.419			0.168
3.Semi- Log	-109.193	51.158	1.589			0.201
4.Log Inv.	1.522	150.819**	1.877			0.26
5.Log-Log Inv.	-8.243	3.284	1.632	-280.807	-1.022	0.429
6.Log Linear	-2.288	1.304**	2.388			0.361
7.Log Qrd Log	10.651	-8.898	-0.785	1.995	0.901	0.415

KARNATAKA (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-36.112	0.198*	10.505			0.917
2.Hyperbolic	71.727	10564.182**	2.578			0.399
3.Semi- Log	-298.148	133.839*	4.603			0.679
4.Log Inv.	2.17	302.972*	8.584			0.88
5.Log-Log Inv.	-5.346	2.635*	3.434	44.886	0.568	0.948
6.Log Linear	-6.548	3.05*	13.29			0.946
7.Log Qrd Log	-11.009	6.728	1.733	0.75	0.949	0.975

KARNATAKA (URBAN)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-15.206	0.105**	2.569			0.398
2.Hyperbolic	65.271	11553.505**	2.202			0.326
3.Semi- Log	-220.5	97.352**	2.568			0.397
4.Log Inv.	2.281	401.607*	9.779			0.905
5.Log-Log Inv.	0.855	0.481	0.404	340.967**	2.186	0.907
6.Log Linear	-6.64	2.986*	7.762			0.858
7.Log Qrd Log	-25.198	17.714*	2.771	2.897***	2.306	0.91

*Implies significant at 5 percent level .
**Implies significant at 10 percent level

Table 4.2 Contd.....

KERALA (RURAL)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-15.602	0.088*	12.655			0.941
2.Hyperbolic	34.642	5059.691**	2.641			0.411
3.Semi- Log	-141.351	63.541*	4.967			0.712
4.Log Inv.	1.837	295.027*	4.967			0.81
5.Log-Log Inv.	-4.027	2.05	1.665	91.66	0.71	0.854
6.Log Linear	-6.44	2.879*	7.422			0.846
7.Log Qrd Log	-12.348	7.724	1.214	0.982	0.763	925

KERALA (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-22.696	0.12*	24.926			0.984
2.Hyperbolic	103.651	19863.556**	2.974			0.469
3.Semi- Log	-385.434	164.196*	6.507			0.809
4.Log Inv.	2.271	345.878*	16.563			0.965
5.Log-Log Inv.	-0.19	0.804*	-3.19	227.589*	5.686	0.983
6.Log Linear	-4.358	2.131*	11.043			0.924
7.Log Qrd Log	-14.384	9.713*	6.484	1.412*	5.047	0.98

M.P. (RURAL)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-23.142	0.157*	22.073			0.98
2.Hyperbolic	69.676	9712.373*	3.213			0.508
3.Semi- Log	-259.925	118.53*	6.569			0.811
4.Log Inv.	2.024	220.127*	8.192			0.87
5.Log-Log Inv.	3.766	2.035*	4.267	21.1	0.427	0.957
6.Log Linear	-4.326	2.227*	14.779			0.956
7.Log Qrd Log	-7.004	4.426*	1.857	0.446	0.925	0.979

M.P. (URBAN)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-22.116	0.114*	40.299			0.994
2.Hyperbolic	95.725	18563.077*	3.081			0.487
3.Semi- Log	-357.585	152.157*	6.838			0.824
4.Log Inv.	2.134	316.111*	7.996			0.865
5.Log-Log Inv.	-2.894	1.642**	3.548	73.493	1	0.943
6.Log Linear	-4.245	2.074*	12.231			0.937
7.Log Qrd Log	-9.246	5.862**	2.526	0.707	1.636	0.975

* Implies significant at 5 percent level.

** Implies significant at 10 percent level.

Table 4.2 Contd.....

MAHARASTRA (RURAL)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-27.537	0.169*	17.124			0.967
2.Hyperbolic	68.931	9703.902**	2.845			0.447
3.Semi- Log	-272.261	123.322*	5.631			0.76
4.Log Inv.	2.007	228.601*	8.077			0.867
5.Log-Log Inv.	-4.669	2.341*	6.021	2.149	0.054	
6.Log Linear	-4.727	2.362*	19.187			0.973
7.Log Qrd Log	-5.936	3.356	1.686	0.202	0.501	0.974

MAHARASHTRA (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	6.842	2.853	0.318			0.01
2.Hyperbolic	15.987	2422.823*	1466			0.176
3.Semi- Log	-22.053	11.716	1.041			0.098
4.Log Inv.	0.915	-124.391	1.355			0.155
5.Log-Log Inv.	11.576	-3.498**	-2.49	629.081**	2.913	0.499
6.Log Linear	-0.371	0.344*	0.538			0.028
7.Log Qrd Log	-32.051	24.569*	3.412	4.57	11.814	0.57

ORISSA (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-9.907	0.097*	12.336			0.938
2.Hyperbolic	47.556	6249.753*	4.635			0.682
3.Semi- Log	-152.284	71.306*	9.521			0.9
4.Log Inv.	2.022	218.428*	24.426			0.983
5.Log-Log Inv.	0.298	0.606*	2.576	160.192	6.756	0.99
6.Log Linear	-4.079	2.123*	12.79			0.942
7.Log Qrd Log	-14.624	10.863*	12.638	1.792	10.185	0.995

ORISSA (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-35.046	0.253*	7.181			0.837
2.Hyperbolic	83.738	10927.288*	3.315			0.923
3.Semi- Log	-299.068	139.734*	4.922			0.707
4.Log Inv.	2.227	211.001*	9.154			0.893
5.Log-Log Inv.	3.066	1.896**	2.117	43.778	0.537	0.928
6.Log Linear	-4.383	2.363*	11.231			0.926
7.Log Qrd Log	-6.813	4.431	0.917	0.436	0.428	0.928

* Implies significant at 5 percent level.

** Implies significant at 10 percent level.

Table 4.2 Contd.....

PUNJAB (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-21.745	0.108*	8.768			0.885
2.Hyperbolic	39.701	6333.084*	2.35			0.356
3.Semi- Log	-172.411	76.26*	4.106			0.623
4.Log Inv.	2.366	486.74*	10.905			0.922
5.Log-Log Inv.	3.089	-0.25	-0.178	913.125	3.296	0.922
6.Log Linear	-9.901	4.184*	6.972			0.829
7.Log Qrd Log	-36.957	26.241*	3.273	4.447	2.756	0.907

PUNJAB (URBAN)						
URBAN	a	b	t[b]	c	t[c]	R^2
1.Linear	-21.075	0.086*	15.531			0.96
2.Hyperbolic	58.639	12061.684**	2.927			0.485
3.Semi- Log	-229.086	96.604*	5.44			0.747
4.Log Inv.	2.286	504.439*	6.596			0.813
5.Log-Log Inv.	2.855	-0.185	-0.115	532.499	2.067	0.813
6.Log Linear	-7.048	2.997*	5.133			0.725
7.Log Qrd Log	-28.096	19.08**	2.006	3.035	1.693	0.791

RAJASTHAN (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-20.972	0.119*	15.935			0.962
2.Hyperbolic	48.778	7328.967**	2.941			0.464
3.Semi- Log	-149.411	87.251*	5.529			0.753
4.Log Inv.	1.961	284.95*	9.399			0.898
5.Log-Log Inv.	-5.139	2.474*	4.946	32.963	0.615	0.972
6.Log Linear	-5.994	2.768*	18.463			0.971
7.Log Qrd Log	-9.509	5.645**	2.486	0.582	1.167	0.975

RAJASTHAN (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-19.366	0.084*	19.719			0.975
2.Hyperbolic	57.838	11466.525**	3.068			0.485
3.Semi- Log	-221.941	94.206*	5.913			0.778
4.Log Inv.	2.102	398.486*	14.815			0.956
5.Log-Log Inv.	-0.538	0.865	1.758	272.166	3.585	0.967
6.Log Linear	-5.171	2.537*	10.814			0.921
7.Log Qrd Log	-17.478	11.557*	3.819	1.708	2.985	0.96

* Implies significant at 5 percent level .

** Implies significant at 10 percent level.

Table 4.2 Contd.....

T.N. (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-18.033	0.107*	17.209			0.967
2.Hyperbolic	45.169	6508.918**	2.728			0.427
3.Semi- Log	-180.561	81.375*	5.401			0.745
4.Log Inv.	1.82	237.531*	8.54			0.879
5.Log-Log Inv.	-4.511	2.21*	6.207	17.743	0.471	0.977
6.Log Linear	-4.973	2.369*	20.43			0.977
7.Log Qrd Log	-6.996	4.02**	2.261	0.333	0.931	0.978

T.N. (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-23.239	0.103*	22.648			0.981
2.Hyperbolic	73.483	13370.66**	2.506			0.386
3.Semi- Log	-300.299	127.56*	5.478			0.75
4.Log Inv.	2.103	374.563*	9.713			0.904
5.Log-Log Inv.	-2.374	1.479**	2.941	175.943	2.394	0.951
6.Log Linear	-5.812	2.585	10.726			0.92
7.Log Qrd Log	-15.616	10.079*	4.08	1.41**	3.041	0.96

U.P. (RURAL)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-20.648	0.143*	23.682			0.982
2.Hyperbolic	62.862	883.905**	3.704			0.578
3.Semi- Log	-226.909	103.724*	7.405			0.846
4.Log Inv.	2.162	259.874*	18.007			0.97
5.Log-Log Inv.	-1.403	1.249*	5.058	136.57*	5.338	0.992
6.Log Linear	-5.047	2.506-*	17.271			0.967
7.Log Qrd Log	-14.037	9.917*	11.183	1.511*	8.371	0.996

U.P. (URBAN)						
	a	b	t[b]	c	t[c]	R^2
1.Linear	-22.376	0.122*	10.99			0.923
2.Hyperbolic	39.266	389.888	0.658			0.041
3.Semi- Log	-38.287	30.735	1.658			0.216
4.Log Inv.	1.201	4.303	0.624			0.037
5.Log-Log Inv.	-5.148	2.361*	19.026	-60.463*	-16.855	0.976
6.Log Linear	0.257	0.376	1.775			0.24
7.Log Qrd Log	0.887	-1.724*	-2.243	0.697*	12.957	0.961

* Implies significant at 5 percent level.
** Implies significant at 10 percent leevel.

Table 4.2 Contd.....

W.B. (RURAL)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-14.327	0.103*	24.237			0.983
2.Hyperbolic	52.486	7657.07*	3.671			0.574
3.Semi- Log	-185.037	84.257*	7.656			0.854
4.Log Inv.	2.026	252.476*	14.099			0.952
5.Log-Log Inv.	-1.084	1.078**	2.79	139.301**	3.238	0.974
6.Log Linear	-4.583	2.268*	13.006			0.944
7.Log Qrd Log	-13.124	9.207*	4.795	1.392**	3.261	0.977

W.B. (URBAN)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-18.493	0.089*	17.123			0.967
2.Hyperbolic	64.47	12149.576**	2.935			0.463
3.Semi- Log	-238.42	102.122*	5.619			0.759
4.Log Inv.	2.103	303.843*	13.889			0.951
5.Log-Log Inv.	-1.624	1.195*	6.051	132.526*	4.402	0.99
6.Log Linear	-4.162	2.013*	17.781			0.969
7.Log Qrd Log	-10.469	6.846*	6.277	0.914**	4.44	0.99

ALL INDIA (RURAL)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-6.958	0.071*	6.827			0.823
2.Hyperbolic	38.352	5195.87*	4.045			0.621
3.Semi- Log	-124.29	57.744*	7.024			0.831
4.Log Inv.	1.861	218.709*	11.67			0.931
5.Log-Log Inv.	-1.381	1.135**	2.491	106.711	2.249	0.959
6.Log Linear	-4.205	2.106*	12.171			0.937
7.Log Qrd Log	-12.143	8.626*	4.314	1.324	3.267	0.971

ALL INDIA (URBAN)						
	a	B	t[b]	c	t[c]	R^2
1.Linear	-14.534	0.087*	14.72			0.956
2.Hyperbolic	67.502	11768.672**	2.959			0.467
3.Semi- Log	-239.603	104.267*	5.93			0.778
4.Log Inv.	1.982	277.483*	7.689			0.855
5.Log-Log Inv.	1.968	1.304*	2.192	99.621	1.148	0.905
6.Log Linear	-3.948	1.944*	9.082			0.892
7.Log Qrd Log	-9.028	5.853**	1.922	0.741	1.287	0.908

*Implies significant at 5 percent level

** Implies significant at 10 percent level.

For clothing, urban region depict the same picture as rural regions. Function (2) and (3) which found unsuitable for rural regions are also found unsuitable for urban regions for clothing in all the states. Function (4) is suitable in urban regions like Bihar, Karnataka, Kerala, Rajasthan, Tamil Nadu and West Bengal as evident form the values of R^2, where as in all other states the values of R2 is quite low. Out of the above three functions Hyperbolic form (function. 2) is the most unsuitable which gives very low value of coefficient of variation. Both function (1) and (7) are the most suitable function. Function (1) is most suitable for clothing in states like Kerala, MP, Punjab, Rajasthan and also in case of all India. Function (7) is most suitable for A.P., Kerala, Maharashtra, W.B. & U.P. function (5) and (6) are also found to be suitable.

Expenditure Elasticities of Cereals and Clothing

Economic Development implies on increase in the level of expenditure as a result of increase in the per capita income. As expenditure on different commodity groups increase disparately, it is necessary to calculate the expenditure elasticity of income for different commodity groups for the purpose of projecting consumer demand and to classify the goods as necessary, inferior and luxurious. As data on income is not available, we have taken expenditure as a proxy for income.

It is also known that the magnitude of Engel elasticity depends to a great extent on the form of underlying Engel function as stated earlier. Therefore, it is appropriate that the Engel elasticity be estimated from that form which apart from processing the desirable properties based on economic consideration also gives a good fit (Houthakker, 1960 b).

In the present study, though we have, estimated the expenditure elasticities from seven different Engel functions on the basis of structural criteria already mentioned in the section 2.4 of Chapter 3, from the point of view of explanation, we used only the best fitting function. The aforementioned tables depict the elasticity together with the values of the R^2. The result are set out for cereals and clothings for rural and urban regional within each state for the periods 1987-88 and 1993-94.

We now turn to examine the silent features of these Engel elasticities. From a glance of the figures in the table-4.3 and 4.4 it emerges that, although the pattern of consumption of cereals and clothing vary between states and the regions they exhibit certain broad common features.

i) Firstly, the magnitude of expenditure elasticity depends upon the type of function estimated.

ii) Secondly, for various states we got different elasticities from the same mathematical expression.

iii) Thirdly, in general, there exists a stable hierarchy in the demand sensitivity (as reflected by elasticities) of commodity groups under study. For instance for cereals, the demand in under-elastic, which means that cereal items are chiefly necessaries. On the contrary, clothing appears to behave like luxuries as elasticity is greater than unity both for rural and urban consumers.

iv) Fourthly, magnitudes of elasticities were found to be slightly higher in rural areas than in the urban areas specially for cereals.

Table 4.3 : RURAL CONSUMPTION EXPENDITURE ELASTICITIES OF CEREALS (43rd ROUND)

	ANDHRA		ASSAM		BIHAR	
FUNCTIONS	E.C.	R^2	E.C	R^2	E.C.	R^2
1.linear.	0.299	0.9	0.396	0.636	0.241	0.786
2.Hyperbolic.	0.349	0.819	0.438	0.992	0.447	0.993
3.Semi-Log.	0.203	0.959	0.210	0.901	0.137	0.982
4.Log Inverse.	0.156	0.934	0.260	0.951	0.298	0.99
5.Log-log inv.	0.301	0.969	0.015	0.984	0.274	0.996
6.Log Linear.	0.416	0.941	0.602	0.737	0.430	0.914
7.Log Qud. log.	0.431	0.96	0.665	0.957	0.513	0.995

	GUJURAT		HARYANA		KARNATAKA	
FUNCTIONS	E.C	R^2	E.C	R^2	E.C	R^2
1.linear.	0.402	0.959	0.368	0.925	0.295	0.799
2.Hyperbolic.	0.350	0.722	0.213	0.733	0.453	0.882
3.Semi-Log.	0.149	0.942	0.882	0.944	0.191	0.981
4.Log Inverse.	0.253	0.862	0.102	0.834	0.198	0.96
5.Log-log inv.	0.472	0.983	0.190	0.953	0.318	0.978
6.Log Linear.	0.470	0.983	0.398	0.953	0.486	0.929
7.Log Qud. log.	0.428	0.991	0.397	0.976	0.531	0.989

	KERALA		M.P.		MAHARASTRA	
FUNCTIONS	E.C	R^2	E.C	R^2	E.C	R^2
1.linear.	0.352	0.798	0.205	0.734	0.174	0.799
2.Hyperbolic.	0.287	0.918	0.351	0.951	0.352	0.868
3.Semi-Log.	0.948	0.99	0.829	0.943	0.866	0.973
4.Log Inverse.	0.151	0.998	0.262	0.977	0.151	0.957
5.Log-log inv.	0.237	0.995	0.582	0.977	0.235	0.982
6.Log Linear.	0.496	0.915	0.357	0.863	0.345	0.919
7.Log Qud. log.	0.445	0.994	0.421	0.979	0.399	0.985

	ORISSA		PUNJAB		RAJSTHAN	
FUNCTIONS	E.C.	R^2	E.C	R^2	E.C	R^2
1.linear.	0.220	0.776	0.364	0.788	0.307	0.658
2.Hyperbolic.	0.446	0.927	0.225	0.928	0.324	0.842
3.Semi-Log.	0.984	0.965	0.880	0.96	0.243	0.907
4.Log Inverse.	0.195	0.98	0.125	0.971	0.190	0.914
5.Log-log inv.	0.333	0.983	0.132	0.972	0.130	0.929
6.Log Linear.	0.403	0.892	0.457	0.87	0.318	0.839
7.Log Qud. log.	0.443	0.985	0.349	0.977	0.164	0.958

Table 4.3 Contd.....

	T.N.		U.P.		W.B.	
FUNCTIONS	E.C	R^2	E.C	R^2	E.C	R^2
1.linear.	0.276	0.809	0.257	0.897	0.258	0.764
2.Hyperbolic.	0.414	0.886	0.315	0.832	0.430	0.94
3.Semi-Log	0.102	0.99	0.820	0.958	0.369	0.978
4.Log Inverse.	0.180	0.97	0.126	0.926	0.205	0.994
5.Log-log inv.	0.301	0.994	0.256	0.966	0.535	0.995
6.Log Linear.	0.488	0.994	0.358	0.945	0.471	0.873
7.Log Qud. log.	0.489	0.997	0.349	0.978	0.546	0.991

	ALL-INDIA	
FUNCTIONS	E.C	R^2
1.linear.	0.214	0.789
2.Hyperbolic.	0.302	0.927
3.Semi-Log.	0.800	0.967
4.Log Inverse.	0.190	0.976
5.Log-log inv.	0.186	0.981
6.Log Linear.	0.349	0.898
7.Log Qud. log.	0.377	0.981

URBAN CONSUMPTION EXPENDIITURE ELASTICITIES OF CEREALS
(43rd ROUND)

	ANDHRA		ASSAM		BIHAR	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	0.162	0.809	0.339	0.204	0.211	0.427
2.Hyperbolic.	0.304	0.847	0.388	0.852	0.218	0.878
3.Semi-Log	0.782	0.976	0.195	0.56	0.394	0.727
4.Log Inverse.	0.128	0.936	0.180	0.853	0.197	0.882
5.Log-log inv.	0.234	0.983	0.151	0.887	0.236	0.894
6.Log Linear.	0.308	0.949	0.288	0.542	0.171	0.687
7.Log Qud. log.	0.340	0.989	0.293	0.836	0.260	0.864

	GUJURAT.		HARYANA.		KARNATAKA.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	0.298	0.395	0.119	0.637	0.116	0.689
2.Hyperbolic.	0.207	0.876	0.159	0.667	0.252	0.841
3.Semi-Log.	0.486	0.725	0.436	0.706	0.602	0.863
4.Log Inverse.	0.185	0.891	0.091	0.709	0.114	0.891
5.Log-log inv.	0.348	0.902	0.132	0.721	0.190	0.895
6.Log Linear.	0.219	0.712	0.188	0.683	0.254	0.791
7.Log Qud. log.	0.415	0.927	0.195	0.699	0.301	0.852

Table 4.3 Contd.....

	KERALA.		M.P.		MAHARASTRA,	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	0.253	0.698	0.109	0.726	0.136	0.854
2.Hyperbolic.	0.300	0.934	0.155	0.937	0.336	0.848
3.Semi-Log.	0.915	0.945	0.416	0.941	0.714	0.971
4.Log Inverse.	0.146	0.983	0.159	0.959	0.154	0.937
5.Log-log inv.	0.168	0.984	0.108	0.971	0.221	0.976
6.Log Linear.	0.414	0.863	0.180	0.914	0.306	0.912
7.Log Qud. log.	0.414	0.973	0.192	0.968	0.343	0.965

	ORISSA		PUNJAB		RAJSTHAN	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	0.190	0.626	0.238	0.845	0.249	0.375
2.Hyperbolic.	0.159	0.625	0.225	0.873	0.213	0.409
3.Semi-Log.	0.384	0.649	0.722	0.964	0.647	0.433
4.Log Inverse.	0.169	0.659	0.104	0.936	0.186	0.548
5.Log-log inv.	0.293	0.664	0.116	0.969	0.182	0.561
6.Log Linear.	0.165	0.612	0.319	0.945	0.256	0.552
7.Log Qud. log.	0.387	0.624	0.312	0.966	0.242	0.565

	T.N.		U.P.		W.B.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	0.200	0.311	0.217	0.271	0.183	0.209
2.Hyperbolic.	0.197	0.533	0.158	0.795	0.388	0.125
3.Semi-Log.	0.569	0.435	0.329	0.608	0.292	0.189
4.Log Inverse.	0.196	0.655	0.119	0.83	0.218	0.059
5.Log-log inv.	0.158	0.686	0.315	0.861	0.351	0.14
6.Log Linear.	0.272	0.516	0.143	0.622	0.140	0.11
7.Log Qud. log.	0.203	0.655	0.247	0.916	0.399	0.14

	ALL-INDIA	
FUNCTIONS	E.C.	R^2
1.linear.	0.108	0.753
2.Hyperbolic.	0.177	0.894
3.Semi-Log.	0.475	0.933
4.Log Inverse.	0.179	0.943
5.Log-log inv.	0.123	0.959
6.Log Linear.	0.202	0.88
7.Log Qud. log.	0.220	0.931

Table 4.3 Contd.....

RURAL CONSUMPTION EXPENDITURE ELASTICITIES OF CLOTHING (43rd ROUND)

	A.P.		ASSAM.		BIHAR.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	2.600	0.974	1.869	0.977	4.653	0.931
2.Hyperbolic.	2.078	0.424	1.534	0.491	4.690	0.327
3.Semi-Log	4.364	0.754	2.134	0.792	3.012	0.655
4.Log Inverse.	1.006	0.958	1.501	0.778	1.010	0.868
5.Log-log inv.	1.943	0.992	1.755	0.968	2.410	0.99
6.Log Linear.	2.684	0.963	1.463	0.955	2.441	0.99
7.Log Qud. log.	2.796	0.996	1.437	0.963	2.465	0.991

	GUJARAT		HARYANA.		KARNATAKA.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	3.526	0.924	2.229	0.959	2.953	0.963
2.Hyperbolic.	2.148	0.337	1.906	0.379	2.802	0.406
3.Semi-Log.	5.606	0.656	4.554	0.716	6.481	0.748
4.Log Inverse.	1.640	0.602	1.253	0.856	1.942	0.875
5.Log-log inv.	2.575	0.916	2.622	0.874	2.213	0.959
6.Log Linear.	2.187	0.851	4.511	0.85	2.453	0.955
7.Log Qud. log.	2.186	0.892	3.819	0.894	2.623	0.962

	KERALA.		M.P.		MAHARASTRA.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	1.883	0.98	2.263	0.985	1.653	0.963
2.Hyperbolic.	1.235	0.42	2.351	0.469	2.266	0.502
3.Semi-Log.	1.297	0.759	4.232	0.788	3.913	0.864
4.Log Inverse.	1.595	0.904	1.817	0.941	1.701	0.913
5.Log-log inv.	1.842	0.988	1.610	0.994	1.412	0.967
6.Log Linear.	2.122	0.983	1.977	0.979	1.800	0.937
7.Log Qud. log.	2.052	0.991	2.110	0.995	2.046	0.978

	ORISSA.		PUNJAB		RAJSTHAN	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	2.490	0.99	2.152	0.948	1.540	0.936
2.Hyperbolic.	3.209	0.48	0.771	0.376	1.154	0.272
3.Semi-Log.	5.988	0.806	1.770	0.7	1.824	0.66
4.Log Inverse.	1.023	0.972	1.055	0.891	1.147	0.222
5.Log-log inv.	1.552	0.995	2.107	0.899	3.314	0.646
6.Log Linear.	2.184	0.948	4.352	0.84	1.665	0.496
7.Log Qud. log.	2.549	0.995	3.410	0.911	2.950	0.593

Table 4.3 Contd.....

	T.N.		U.P.		W.B.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	2.285	0.986	2.062	0.973	2.025	0.964
2.Hyperbolic.	2.213	0.456	2.143	0.508	2.192	0.496
3.Semi-Log.	3.394	0.805	3.564	0.811	3.890	0.827
4.Log Inverse.	1.871	0.911	1.803	0.897	1.771	0.894
5.Log-log inv.	1.807	0.969	1.390	0.923	1.495	0.951
6.Log Linear.	2.239	0.952	1.941	0.892	1.831	0.935
7.Log Qud. log.	2.381	0.976	2.101	0.921	1.950	0.953

	ALL-INDIA.	
FUNCTIONS	E.C.	R^2
1.linear.	2.344	0.976
2.Hyperbolic.	2.015	0.425
3.Semi-Log.	3.993	0.759
4.Log Inverse.	1.771	0.905
5.Log-log inv.	1.866	0.989
6.Log Linear.	2.089	0.985
7.Log Qud. log.	2.143	0.992

URBAN CONSUMPTION EXPENDITURE ELASTICITIES OF CLOTHING
(43rd ROUND)

	A.P.		ASSAM		BIHAR	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	1.817	0.974	1.341	0.958	2.663	0.976
2.Hyperbolic.	2.331	0.498	2.344	0.21	4.145	0.394
3.Semi-Log.	4.329	0.854	3.837	0.62	8.246	0.734
4.Log Inverse.	1.008	0.954	3.018	0.72	1.885	0.904
5.Log-log inv.	1.301	0.96	1.939	0.988	1.626	0.985
6.Log Linear.	2.292	0.859	2.188	0.983	1.821	0.976
7.Log Qud. log.	2.761	0.96	1.766	0.987	2.497	0.985

	GUJURAT		HARYANA		KARNATAKA	
FUNCTIONS.	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	1.930	0.941	2.400	0.952	2.225	0.91
2.Hyperbolic.	1.998	0.547	2.212	0.501	2.834	0.412
3.Semi-Log.	3.430	0.853	4.478	0.807	2.275	0.773
4.Log Inverse.	1.020	0.856	1.509	0.924	1.704	0.77
5.Log-log inv.	1.861	0.884	2.361	0.927	1.881	0.937
6.Log Linear.	2.624	0.853	3.679	0.774	1.831	0.936
7.Log Qud. log.	2.836	0.896	4.112	0.916	1.861	0.937

Table 4.3 Contd.....

	KERALA		M.P.		MAHARASTRA.	
FUNCTIONS.	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	1.556	0.909	1.406	0.751	1.061	0.988
2.Hyperbolic.	1.180	0.49	1.475	0.557	1.809	0.477
3.Semi-Log.	1.584	0.806	1.678	0.777	1.724	0.823
4.Log Inverse.	1.743	0.841	1.750	0.944	1.116	0.973
5.Log-log inv.	1.434	0.864	1.253	0.961	1.871	0.994
6.Log Linear.	2.226	0.823	1.981	0.913	2.171	0.936
7.Log Qud. log.	2.235	0.873	2.106	0.974	2.708	0.993

	ORISSA		RAJSTHAN		PUNJAB	
FUNCTIONS.	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	1.612	0.967	2.285	0.968	1.673	0.806
2.Hyperbolic.	1.793	0.55	1.507	0.571	1.155	0.515
3.Semi-Log.	3.508	0.848	2.191	0.857	1.328	0.703
4.Log Inverse.	1.899	0.913	1.774	0.931	1.292	0.904
5.Log-log inv.	1.262	0.921	2.124	0.937	1.501	0.955
6.Log Linear.	2.159	0.854	2.324	0.778	3.612	0.953
7.Log Qud. log.	2.439	0.925	2.294	0.93	3.359	0.957

	T.N.		U.P.		W.B.	
FUNCTIONS.	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.linear.	1.551	0.192	1.571	0.985	2.218	0.95
2.Hyperbolic.	1.996	0.147	1.890	0.564	1.831	0.387
3.Semi-Log.	1.421	0.171	2.570	0.863	3.728	0.721
4.Log Inverse.	1.694	0.674	1.750	0.965	1.648	0.752
5.Log-log inv.	1.023	0.676	1.237	0.99	1.851	0.865
6.Log Linear.	2.155	0.637	1.771	0.949	1.872	0.865
7.Log Qud. log.	1.911	0.672	1.982	0.992	1.870	0.865

	ALL-INDIA	
FUNCTIONS.	E.C.	R^2
1.linear.	1.399	0.817
2.Hyperbolic.	1.227	0.435
3.Semi-Log.	1.751	0.689
4.Log Inverse.	1.338	0.684
5.Log-log inv.	1.971	0.71
6.Log Linear.	2.883	0.674
7.Log Qud. log.	1.934	0.687

Before going into the details of the study, it will be worthwhile for us to outline some basic reason for this variation. The mean expenditure at which regional elasticity are calculated, are not equal and thus some differences in elasticities of different states are bound to appear because, the values of elastcities depend on the level of total expenditure. Inter-state differences may also arise when certain basic differences, such as household size exists between regions. Thirdly, differences may arise due to variation of climatic conditions, of availability of natural resources and of tastes and preferences embedded in customs and traditions. Differences in the level of development and in the rate of economic growth and urbanization in different states may also affect consumption pattern by affecting average income per capita. State level variations in the relative prices of food and non-food items may be another complicating factor. Some of the sociological variables like customs and traditions are, however, non-quantifiable. But even in the case of quantifiable variables, it is not possible to consider their influence owing to the insufficiency of non-availability of data.

Statewise analysis

In the rural areas, it is apparent from table-4.3 that in case of cereals during 1987-88 elasticities are higher in low income states as against high income states like Punjab and Haryana. This indicates that the importance of cereals in the household budgets of rural areas of low income state, though declines with the rise in the levels of living (elasticity being less than unity), is more compared to rural areas of states like Punjab and Haryana. The same picture will be seen even in the latter period, 1993-94 (50^{th} round) with the exception of Punjab which experiences

negative income elasticities(Table-4.4). These inter-state variations in consumption of cereals appears to be attributed to greater tendency towards diversification in the composition of food item and/or towards an increase in expenditure on milk and milk products in rural areas of high income states than in low income states. At the same time we can conclude that, Dusenberry's "Demonstration effect" which was working effectively until at westernized urban centers of high income states seems to have migrated to the hinterlands of these states, thereby altering the preference pattern of the household in favour of non-cereal food. On the other hand, in case of low income states like Orissa, West Bengal, Rajasthan, though the expenditure elasticity are less than unity, it seems that with the rise in the levels of agricultural development in recent years, their effective demand for cereals which was earlier low seems to be increasing.

So far as clothing is concerned which is estimated to be a luxury item (elasticity greater than unity) in all states during the periods under reference, it 6is evident from the table that though there are not much variation in expenditure elasticities between rural and urban areas, still we can infer that it figures less prominently in the budgets of consumers in low income states vis-a-vis Punjab, Haryana and Assam. In Assam demand for clothing is high because of severe winter. Interestingly, while relative importance of clothing is lower both in rural and urban regions of low income states, the value of elasticity works to be higher in the corresponding regions and periods (1993-94). This reveals that with the rise in the level of living, the relative importance of clothing goes up faster in low income states like Orissa, Rajasthan etc as compared to its counter part, viz. high income states.

Table 4. 4 : RURAL CONSUMPTION EXPENDITURE ELASTICITIES OF CEREALS (50th ROUND)

	ANDHRA PRADESH		ASSAM		BIHAR	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.326	0.822	0.336	0.767	0.248	0.805
2.Hyperbolic.	0.368	0.935	0.259	0.735	0.435	0.966
3.Semi-log.	0.898	0.988	0.503	0.633	0.998	0.962
4.Log Inverse.	0.175	0.991	0.131	0.773	0.191	0.985
5.Log-log inv.	0.349	0.997	0.268	0.882	0.264	0.985
6.Log Linear.	0.470	0.93	0.252	0.688	0.393	0.896
7.Log Qud.log.	0.480	0.993	0.193	0.688	0.476	0.972

	GUJARAT		HARYANA.		KARNATAKA	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.347	0.759	0.267	0.807	0.337	0.724
2.Hyperbolic.	0.336	0.969	0.172	0.93	0.429	0.955
3.Semi-log.	0.979	0.955	0.642	0.959	0.714	0.94
4.Log Inverse.	0.171	0.991	0.185	0.956	0.206	0.986
5.Log-log inv.	0.273	0.991	0.141	0.962	0.200	0.986
6.Log Linear.	0.481	0.893	0.306	0.901	0.511	0.888
7.Log Qud.log.	0.440	0.992	0.254	0.95	0.587	0.991

	KERALA		M.P.		MAHARASTRA	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.394	0.757	0.194	0.644	0.409	0.847
2.Hyperbolic.	0.251	0.971	0.329	0.98	0.483	0.906
3.Semi-log.	0.940	0.964	0.762	0.89	0.643	0.992
4.Log Inverse.	0.142	0.944	0.255	0.974	0.233	0.985
5.Log-log inv.	0.237	0.995	0.178	0.983	0.339	0.995
6.Log Linear.	0.497	0.878	0.344	0.811	0.579	0.939
7.Log Qud.log.	0.358	0.986	0.405	0.962	0.602	0.995

	ORISSA		PUNJAB		RAJSTHAN	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.185	0.6	0.221	0.514	0.205	0.538
2.Hyperbolic.	0.370	0.985	-0.159	0.614	0.236	0.973
3.Semi-log.	0.755	0.862	-1.037	0.782	0.653	0.824
4.Log Inverse.	0.168	0.975	-0.050	0.521	0.121	0.96
5.Log-log inv.	0.680	0.996	-0.516	0.93	0.222	0.991
6.Log Linear.	0.332	0.806	0.117	0.891	0.325	0.77
7.Log Qud.log.	0.444	0.993	-0.092	0.752	0.281	0.984

Table 4.4 Contd.....

	T.N.		U.P.		W.B.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.251	0.658	0.207	0.809	0.227	0.739
2.Hyperbolic.	0.324	0.968	0.245	0.962	0.329	0.967
3.Semi-log.	0.880	0.922	0.648	0.965	0.818	0.917
4.Log Inverse.	0.157	0.988	0.299	0.979	0.151	0.985
5.Log-log inv.	0.131	0.989	0.227	0.983	0.161	0.985
6.Log Linear.	0.404	0.855	0.253	0.924	0.361	0.89
7.Log Qud.log.	0.415	0.987	0.262	0.973	0.398	0.981

	ALL - INDIA	
FUNCTIONS	E.C.	R^2
1.Linear.	0.194	0.633
2.Hyperbolic.	0.261	0.993
3.Semi-log.	0.667	0.887
4.Log Inverse.	0.126	0.978
5.Log-log inv.	0.249	0.991
6.Log Linear.	0.311	0.813
7.Log Qud.log.	0.195	0.971

URBAN CONSUMPTION EXPENDITURE ELASTICITIES OF CEREALS (50thROUND)

	A.P		ASSAM		BIHAR	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C	R^2
1.Linear.	0.324	0.657	0.128	0.188	0.165	0.424
2.Hyperbolic.	0.278	0.872	0.137	0.585	0.151	0.912
3.Semi-log.	0.847	0.840	0.393	0.398	0.311	0.71
4.Log Inverse.	0.129	0.925	0.117	0.664	0.188	0.905
5.Log-log inv.	0.249	0.925	0.209	0.793	0.212	0.953
6.Log Linear.	0.384	0.854	0.193	0.456	0.138	0.682
7.Log Qud.log.	0.323	0.937	0.143	0.833	0.189	0.928

	GUJARAT		HARAYANA		KARNATAKA	
FUNCTIONS	E.C.	R^2	E.C	R^2	E.C.	R^2
1.Linear.	0.318	0.498	0.145	0.264	0.306	0.625
2.Hyperbolic.	0.240	0.768	0.137	0.645	0.259	0.962
3.Semi-log.	0.774	0.681	0.409	0.478	0.792	0.859
4.Log Inverse.	0.123	0.838	0.135	0.684	0.130	0.96
5.Log-log inv.	0.190	0.865	0.080	0.478	0.127	0.981
6.Log Linear.	0.384	0.7	0.192	0.807	0.387	0.814
7.Log Qud.log.	0.227	0.856	0.156	0.824	0.272	0.982

Table 4.4 Contd.....

	KERALA		M.P.		MAHARASTRA	
FUNCTIONS	E.C	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.146	0.522	0.116	0.642	0.221	0.665
2.Hyperbolic.	0.198	0.983	0.194	0.923	0.195	0.982
3.Semi-log.	0.576	0.86	0.485	0.866	0.655	0.929
4.Log Inverse.	0.118	0.984	0.229	0.944	0.197	0.991
5.Log-log inv.	0.194	0.99	0.127	0.944	0.283	0.992
6.Log Linear.	0.276	0.792	0.214	0.817	0.312	0.86
7.Log Qud.log.	0.270	0.978	0.241	0.912	0.262	0.983

	ORISSA		PUNJAB		RAJSTHAN	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.121	0.6	0.181	0.79	0.178	0.346
2.Hyperbolic.	0.248	0.193	0.183	0.915	0.138	0.896
3.Semi-log.	0.108	0.5	0.601	0.95	0.322	0.643
4.Log Inverse.	0.123	0.21	0.086	0.946	0.116	0.875
5.Log-log inv.	0.588	0.898	0.159	0.959	0.161	0.978
6.Log Linear.	0.156	0.059	0.273	0.92	0.154	0.611
7.Log Qud.log.	0.405	0.893	0.256	0.956	0.162	0.941

	T.N.		U.P.		W.B.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	0.177	0.617	0.179	0.777	0.182	0.48
2.Hyperbolic.	0.220	0.88	0.121	0.009	0.190	0.84
3.Semi-log.	0.891	0.974	0.262	0.157	0.284	0.687
4.Log Inverse.	0.105	0.922	0.230	0.006	0.148	0.823
5.Log-log inv.	0.113	0.995	0.189	0.915	0.117	0.85
6.Log Linear.	0.330	0.831	0.125	0.141	0.131	0.636
7.Log Qud.log.	0.343	0.98	0.228	0.904	0.119	0.781

	ALL - INDIA	
FUNCTIONS	E.C.	R^2
1.Linear.	0.114	0.557
2.Hyperbolic.	0.137	0.839
3.Semi-log.	0.420	0.789
4.Log Inverse.	0.114	0.818
5.Log-log inv.	0.171	0.819
6.Log Linear.	0.189	0.724
7.Log Qud.log.	0.186	0.807

Table 4.4 Contd.....

RURAL CONSUMPTION EXPENDITURE ELASTICITIES OF CLOTHING (50thROUND)

	A.P.		ASSAM		BIHAR	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	2.687	0.965	3.916	0.899	3.889	0.967
2.Hyperbolic.	1.954	0.458	1.656	0.283	4.495	0.499
3.Semi-log.	4.013	0.77	3.635	0.326	6.083	0.777
4.Log Inverse.	1.011	0.912	1.461	0.555	1.706	0.903
5.Log-log inv.	2.445	0.972	1.185	0.557	2.438	0.978
6.Log Linear.	2.879	0.966	1.842	0.554	2.539	0.978
7.Log Qud.log.	2.896	0.988	2.104	0.514	2.628	0.98

	GUJARAT		HARYANA		KARNATAKA	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	3.232	0.907	1.840	0.961	3.348	0.917
2.Hyperbolic.	1.803	0.392	1.747	0.456	2.462	0.399
3.Semi-log.	3.997	0.67	1.548	0.762	5.401	0.679
4.Log Inverse.	1.543	0.769	0.544	0.589	1.125	0.88
5.Log-log inv.	1.168	0.979	3.488	0.833	2.802	0.948
6.Log Linear.	2.330	0.949	2.308	0.786	3.050	0.946
7.Log Qud.log.	2.864	0.96	2.922	0.899	3.082	0.975

	KERALA		M.P.		MAHARASTRA	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	2.045	0.941	2.481	0.98	2.600	0.967
2.Hyperbolic.	1.771	0.411	2.416	0.508	2.008	0.447
3.Semi-log.	1.782	0.712	4.431	0.811	3.959	0.76
4.Log Inverse.	1.756	0.81	1.873	0.87	1.838	0.867
5.Log-log inv.	2.285	0.854	2.119	0.957	2.349	0.437
6.Log Linear.	2.879	0.846	2.227	0.956	2.362	0.973
7.Log Qud.log.	2.634	925	2.284	0.979	2.372	0.974

	ORISSA		PUNJAB		RAJSTHAN	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	1.993	0.938	2.173	0.885	2.453	0.962
2.Hyperbolic.	1.657	0.682	1.679	0.356	1.454	0.464
3.Semi-log.	3.664	0.9	1.543	0.623	2.578	0.753
4.Log Inverse.	1.993	0.983	1.124	0.922	1.883	0.898
5.Log-log inv.	1.335	0.99	1.935	0.922	2.576	0.972
6.Log Linear.	2.123	0.942	4.184	0.829	2.768	0.971
7.Log Qud.log.	2.469	0.995	2.792	0.907	2.725	0.975

Table 4.4 Contd.....

	T.N.		U.P.		W.B.	
FUNCTIONS	E.C.	R^2	E.C	R^2	E.C.	R^2
1.Linear.	2.488	0.967	2.186	0.982	2.254	0.983
2.Hyperbolic.	1.755	0.427	1.180	0.578	2.156	0.574
3.Semi-log.	3.442	0.745	2.791	0.846	3.613	0.854
4.Log Inverse.	1.808	0.879	1.949	0.97	1.905	0.952
5.Log-log inv.	2.270	0.977	1.748	0.992	1.578	0.974
6.Log Linear.	2.369	0.977	2.506	0.967	2.268	0.944
7.Log Qud.log.	2.376	0.978	2.551	0.996	2.399	0.977

	ALL-INDIA	
FUNCTIONS	E.C.	R^2
1.Linear.	1.321	0.823
2.Hyperbolic.	1.221	0.621
3.Semi-log.	2.819	0.831
4.Log Inverse.	1.777	0.931
5.Log-log inv.	1.514	0.959
6.Log Linear.	2.106	0.937
7.Log Qud.log.	2.140	0.971

URBAN CONSUMPTION EXPENDITURE ELASTICITIES OF CLOTHING
(50th ROUND)

	A.P.		ASSAM		BIHAR	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	2.724	0.51	1.685	0.458	2.890	0.938
2.Hyperbolic.	1.689	0.361	1.947	0.411	2.911	0.417
3.Semi-log.	2.973	0.47	1.537	0.477	5.828	0.707
4.Log Inverse.	1.080	0.923	1.674	0.804	1.009	0.957
5.Log-log inv.	1.454	0.924	1.354	0.814	1.659	0.979
6.Log Linear.	3.263	0.874	2.318	0.79	2.338	0.947
7.Log Qud.log.	2.857	0.924	1.927	0.82	2.557	0.972

	GUJARAT		HARYANA		KARNATAKA	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	3.296	0.582	1.551	0.215	2.275	0.398
2.Hyperbolic.	1.561	0.386	1.799	0.168	1.398	0.326
3.Semi-log.	5.309	0.499	3.043	0.201	1.984	0.397
4.Log Inverse.	1.251	0.888	1.318	0.26	1.949	0.905
5.Log-log inv.	1.413	0.888	2.691	0.429	1.287	0.907
6.Log Linear.	4.132	0.83	2.388	0.361	2.986	0.858
7.Log Qud.log.	3.246	0.879	2.574	0.415	2.496	0.91

Table 4.4 Contd.....

	KERALA		M.P.		MAHARASTRA	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	1.637	0.984	1.979	0.994	2.130	0.01
2.Hyperbolic.	1.111	0.469	1.928	0.487	1.214	0.176
3.Semi-log.	1.535	0.809	3.461	0.824	1.549	0.098
4.Log Inverse.	1.700	0.965	1.773	0.865	1.234	0.155
5.Log-log inv.	1.265	0.983	1.822	0.943	1.310	0.499
6.Log Linear.	2.131	0.924	2.074	0.937	2.344	0.028
7.Log Qud.log.	2.106	0.98	2.169	0.975	2.329	0.57

	ORISSA		PUNJAB		RAJSTHAN	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	4.820	0.837	2.227	0.96	2.356	0.975
2.Hyperbolic.	1.285	0.923	1.198	0.485	1.783	0.485
3.Semi-log.	3.613	0.707	1.899	0.747	3.222	0.778
4.Log Inverse.	1.524	0.893	1.987	0.813	1.938	0.956
5.Log-log inv.	2.005	0.928	1.857	0.813	1.506	0.967
6.Log Linear.	2.363	0.926	2.997	0.725	2.537	0.921
7.Log Qud.log.	2.160	0.928	2.641	0.791	2.579	0.96

	T.N.		U.P.		W.B.	
FUNCTIONS	E.C.	R^2	E.C.	R^2	E.C.	R^2
1.Linear.	2.135	0.981	2.248	0.923	1.835	0.967
2.Hyperbolic.	1.443	0.386	1.047	0.041	1.114	0.463
3.Semi-log.	3.034	0.75	1.456	0.216	1.440	0.759
4.Log Inverse.	1.854	0.904	1.011	0.037	1.640	0.951
5.Log-log inv.	1.880	0.951	2.206	0.976	1.474	0.99
6.Log Linear.	2.585	0.92	2.376	0.24	2.013	0.969
7.Log Qud.log.	2.629	0.96	1.334	0.961	1.954	0.99

	ALL-INDIA	
FUNCTIONS	E.C.	R^2
1.Linear.	1.860	0.956
2.Hyperbolic.	1.199	0.467
3.Semi-log.	2.865	0.778
4.Log Inverse.	1.605	0.855
5.Log-log inv.	1.521	0.905
6.Log Linear.	1.944	0.892
7.Log Qud.log.	1.910	0.908

Regional Analysis

So far we have dealt with the analysis pertaining to the interstate variations in a given region and period. In this section, we examined the regional differences within each state and in a given period. A perusal of figure in the table-4.3 shows that within each state in 1987-88, the relative importance of cereals is greater for rural households than for its counter part, viz. Urban household in all states except Rajasthan.

In 1993-94 (Table-4.4) in almost all the states the relative importance is greater for rural household than for its counterpart. Another conclusion which is emerging from the present study is that, in both the reference period the expenditure elasticities of cereals for rural and urban areas are high for low income states, (though less than one) comparing to high income states, but the ranking of states differs in different Engel function.

Clothing is observed to enjoy more importance among ruralities than among urbanities of different states and at all India in 1987-88 but notable exception to this are Assam, Gujarat, Haryana, Maharashtra and Punjab. In 1993-94, in states like Andhra Pradesh, Assam, Gujarat, Madhya Pradesh, Orissa, and Uttar Pradesh clothing enjoy more favour among ruralites than among urbanities. This trend is also true at the all India level. In the other states the reverse is true.

Upshot of the forgoing discussion is that, on the whole, the Engel's law, which says that expenditure on food items increases at a decreasing rate when the level of income increases and the other way round for non-food items, is valid in the present study, thereby confirming our hypothesis.

SUMMARY FINDINGS

The present study churned out some important outcome on inter-state and rural-urban variations in the level and pattern of consumption expenditure, the values of expenditure elasticity is calculated for cereals and clothing to classify the commodity as necessary and luxuries for fifteen major states of India and also at regional level. We also try to find out suitability of different Engel functions for two commodities i.e., cereals and clothing at the state level and also at regional level in India. This study is based on the secondary data on consumer expenditure for 1987-88 and 1993-94 published by NSSO in its forty third round and fifteenth round respectively Different methodologies involved in this cross- sectional study are:-

i) To show the excess of urban expenditure over rural expenditure for 22 commodity groups the following method was used.

$$E = \frac{U - R}{R} X100$$

Where E is the Excess of urban expenditure, U is per capita urban expenditure, R is the per capita rural expenditure.

ii) Rural – Urban disparities is being found by introducing two dummy variables in the following regression model.

$$Y = a_1 + (a_2 - a_1) D_1 + b_1 X + (b_2 - b_1) D_2 X + U$$

If ($a_2 - a_1$) coeffi4cient is significant then there is a significant difference between rural and urban section with respect to autonomous consumption. But (b_2–b_1) coefficient's significance indicates a significant difference in induce consumption between rural and urban segment.

iii) In order to find out the suitability of different algebraic formulations for consumption expenditure data of cereals and clothing at the state level as well as regional level we have used seven different type of Engel functions . They are Linear, Hyperbolic, Semi-log, log- inverse, log.-log inverse, log – linear and log quadratic log to the data of 50th round.

iv) To known the expenditure elasticity of cereals and clothing's and their inter-state and inter-regional variation we have used the above mentioned seven Engel function and fitted it to the data of 43rd and 50th round respectively.

Distribution of total expenditure in various commodity groups indicates that cereal is the most dominant commodity in food items. Percentage expenditure on cereals is higher in rural areas than urban areas in all the states. Percentage expenditure on cereals is higher in less developed states compared to developed states. It is 38.9and 19.9 in Orissa,36.9 and 22.9 in Bihar compare to 10.5 and 9 in Punjab and 12.7 and 10.3 in Haryana. Part of the explanation for this paradox lies in the diversification of food baskets (or preference pattern) in favour of non-cereal food and also due to reduced consumption of coarse cereals. In Orissa, Bihar and other less developed states high per capita in take of cereals is due to accleration of rice production. After cereals, milk products is the next most dominant item among

foodgroups whose share in total expenditure shows wide vaiation among different states. This groups account for 25.5 and 18.4 percent in Haryana, 20.4 and 15.9 percent in Punjab in rural and urban areas respectivy, whereas in Orissa those shares are as low as 2.4 and 4.9 percent. Among the non-food items clothing is the most important commodity group. But in case of clothing there is no such particular trend with regard to the development of states. Miscelleaneous comodity group which contain medical, education and other services shows wide rural-urban variation in term of share in total expenditure. At all-India level 27.5 percent of total expenditure goes to miscellaneons groups in urban areas where it is only 17.3 percent in rural areas.

The analysis of excess of urban expenditure over rural expenditure shows that in 43rd round, this magnitude of excess varies a lot from state to state, but the direction is almost same. In case of cereals rural expenditure is significantly higher than urban expenditure in all state except Karnataka and Haryana where the reverse is true though marginally. Total per-capita expenditure on food items in rural areas more than urban areas in Assam only. But in all other states reverse is true. Urban expenditure in non-food items is significantly more than rural expenditure in all the states except Assam and Maharastra, that means, Assam is the only state where percentage monthly per-capita expenditure on food and non-food items and since on total consumption significantly greater than urban areas.

In NSS 50th round consumer expenditure survey, there are some significant changes on the ranking of different states. In case of cereals urban expenditure is

higher than that of rural expenditure in all states except Haryana, Kerala, Madhya Pradesh, Orissa, Rajsthan, Tamil Nadu and West Bangal. In all states total expenditure on food items in urban areas in more than rural areas. Urban expenditure on non-food items is significantly higher than rural expenditure in all states. The states where maximum differences exists between urban and rural total expenditure and Maharastra, Orissa, Assam and West Bengal, respectively.

If we clubbed togther, the findings of the above two rounds then it is evident that excess of urban expenditure over rural expenditure abridged in most states except Assam, Bihar, Karnataka, Maharastra, Punjab & West Bengal due to the significant progress in agricultural sector of different states in recent years.

Rural-urban differntials in autonomous and induced parts of consumption have been analysed using dummy variables to the data of 43rd round and 50th round. Dummy variable which has been used in the regression takes zero for rural areas and one for urban. In all the cases rural-urban differentials in consumption have been tested at 10 percent level of significance. In most of the states the slope and intercept dummies are found to significant at 10 percent level. It is also seen that the intercept dummy coefficient for most of the states is positive which means the autonomous consumption is higher in urban areas than rural areas. It is also marked from the different rounds of data that, rural autonomous consumption expenditure is increasing gradually in rural areas as compare to urban areas across the different rounds of consumption expenditure survuey.

In analysing the rural-urban disparity in induced consumption expenditure,

it can be concluded that, for all most all the states the slope dummy is found to be sifnigicant at 10 percent level and the coefficient of slope dummy is negative for the same. So undoubtly it can be said that in rural areas consumption rises faster as in come increases than the rise in consumption as income rises in urban areas.

The present study has used seven different kinds of algebraic formation of Engel function for regression analysis between commodity expenditure and total expenditure (proxy for income). None of these functions is suitable for all states and for all commodities. However, we found that for cereals in both rural and urban areas log-log inverse function is most suitable. States where in rural areas log-log inverse function is suitable for cereals are Andhra Pradesh, Assam, Bihar, Haryana, Kerala, Madhya Pradesh, Maharastra, Tamil Nadu, Orissa, Rajsthan, Kerala, Uttar Pradesh and West Bengal. For urban areas log-log inverse function is suitable for states like, Bihar. Kerala, Madhya Pradesh, Maharastra,Orissa, Punjab, Rajsthan, Tamil Nadu, Uttar Pradesh and West Bengal. On the other hand, for clothing in rural and urban region log quadratic log is the suitable function .It is most suitable in rural areas for states like Andhra pradesh, Bihar, Kerala, Maharashtra, Orissa, Rajsthan, Tamil Nadu, Uttar Pradesh and West Bengal. Where as for urban areas it was most suitable in states like Andhra Pradesh, Kerala, Maharashtra, West Bengal and Uttar Pradesh.

While discussing expenditure elasticity we found that, there exists a stable hierarchy in the demand sensitivity of commodity groups under study. For instance for cereals, the demand is under elastic, which implies that cereal items are chiefly

necessaries. On the contrary, clothing appears to be behave like luxuries as elasticity greater than unity for rural and urban consumers, thereby proving the hypothesis. This points towards the fact that redistribution of income in favour of the poorer strata of the population, rural poor in particular, may be realized upon to generate substantial effective demand especially not only for cereals, milk and milk products edible oils and sugar in particular but also for certain non-food items. This in-turn implies enormous increase of demand in different states thereby increasing pressure on prices of these commodity groups many of which are essential in nature and are already in short supply. This calls for appropriate policy measures not only for supplying of these products but also for meeting the expected problems of excess demand.

Magnitudes of expenditure elasticities were found to be slightly higher in rural areas than in the urban areas specially for cereals except Rajsthan in 1987-88 in 1993-94 in almost all states relative 4importance is greater for rural household than its urban counterpart. Elasticities are higher for cereals in low income states comparing to those of high income states as indicated by total expenditure during both the period of reference. The above inter-state variation in consumption of cereals appears to be attributed to greater tendency towards diversification in the composition of food item and /or towards an increase in expenditure on milk and milk products in rural areas of high income states than in low income states. So far as clothing is concerned which is estimated a luxury item in all states during the period under references, it is evident that though there are not much variation in expenditure Elasticities between rural and urban areas, still we can inter that it

figures less prominently in the budgets of consumers in low income states vis-a – vis Punjab, Haryana and Assam.

It was also observed that, clothing enjoy more importance among ruralities than urbanities in both the reference period.

Since the elesticities were calculated from seven types of functions and none of the function is suitable for all commodities and for all the states, it is concluded that magnitude of expenditure elasticities depend upon the type of function estimated.

Within the limits of reliability of NSS data used, the estimates of expenditure elasticities so obtained have a number of implications for the development of different economies under reference . For cereals, (Food item) it is obvious that the relative importance will decline as the average level of income per capita increase. On the contrary, for clothing (non-food group) behaves the other way round. This mean that at higher income levels, clothing (non-food items) and other tend to be substituted for food items (cereals) in the households budget. This calls for the provision of needed supplies and or substantial productive capacity in these sector to avoid shortages.

5.1 Some Limitations of the Study and scope for Further work:--

Admittedly, the various findings of the present study and conclusions there of are subject to various limitations arising on account of the nature and quality of available NSS data. Apart from that, both the theoretical and empirical aspects of

the study could be further enlarged and strengthened, by increasing the number of commodity groups under considerations. One can also find out the concentration ratio to show the inequality in expenditure.

Finally, we have selected functional forms for the Engel curve on the basis of R^2 criterion. Alternative criteria could be followed for this purpose.

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