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An economic analysis of household consumption expenditure pattern in Villupuram District of Tamil Nadu

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Abstract

Urbanization and Post globalization has raised India's monthly per capita income and that has significantly impacted its consumption pattern by causing a change in the structure of food consumption baskets. The present study attempts to find the household food and non-food consumption behavior and pattern by using Engels curve estimation of household consumption expenditure in Villupuram district of Tamil Nadu. The result of this study annual income had a positive influence on the expenditure of the households on Agriculturist, Agricultural labour and other workers. The co-efficient for family size was positively significant except for clothing, health and recreation in Agriculturist and social in agricultural labour. The co- efficient of family size was negative significant except food and health. It could be also concluded that size of the family also had positive influence on the expenditure pattern of the households. It is concluded that addition to the annual income and family size of the households would significantly contribute to increase in expenditure on necessities like food, clothing, education, health, recreation, festival, social and others. Here is the diversified household are having a good income pattern because, increasing the days of employment and providing the MGNREGAs works to increase their income.

Key words : Household, Consumption Behavior, Consumption Pattern, Consumption expenditure, Income.

One of the earliest areas in economics is the study of household budget allocation, or how a household's money is divided up to buy various goods. Shares of household budgets provide pertinent data that can help clarify this matter. Indeed, the household budget share for a specific commodity category is determined by dividing the amount spent on that category

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by the entire household resources, such as total income or total expenditure. Applied economists have given this subject a lot of attention during the past few decades. The development of statistical demand functions for homogeneous groupings of commodities has received a lot of attention in general.

A society's financial situation is referred to as its economic condition. The key determinants of a society's economic condition include its per capita income, standard of life, level of consumption, etc. The "macro" and "micro" level dimensions of development are presented by a variety of indicators of the standards of living. India's population is growing, its income is rising, and its urbanization are all contributing to a significant increase in the demand for food and non-food products. However, because different socioeconomic classes have varying levels of purchasing power, the amount and types of consumption may change dramatically geographically. The changes in percentage of composition of Monthly Per capita Consumption Expenditure in India accounted for 10.08 per cent cereals like 8 per cent milk and milk products, 7.9 per cent on vegetables, Non-food categories like fuel and light accounted for 8 percent (household purposes only not transport), clothing and footwear for 7 percent, medical expenses for 6.7 per cent, education for 3.6 per cent, conveyance for 4.3 per cent, other consumer service for 4 percent, and consumer durables for 4 per cent. Then for an average urban Indian, 42.6 per cent of the value of household consumption was accounted by food, including 9 percent by beverages and processed foods, 7 percent milk and milk products, and 6.7 percent by cereals. Education accounted 6.9 percent, fuel 6.7 percent, conveyance 6.5 percent, and clothing footwear 6.4 percent respectively (Anon 2013). In the present study is analyse how the household spent their income to different expenditures like food, clothing, education, festival, recreation and medical. The main objective of this study is to analyze the household consumption expenditure pattern from their annual income. For the preparation of the manuscript relevant literature has been consulted.[1-10]

The Villupuram district was purposefully chosen for the study, taking into account the researcher's convenience and the resources at their disposal to carry out the investigation. In this study, a purposive sampling method was used, using Tamil Nadu as the universe, the Villupuram district as the first stage unit, the community development block with the highest population as the second stage unit, the villages with the highest population as the third stage unit, and the households from three occupational groups as the fourth and final stage unit of sampling.

The selected villages were Veerapandi, Oddampattu and kandachipuram in Mugaiyur block. The sample respondents were fixed as 90 and samples were distributed in each of the selected villages equally among the different occupational groups, presented in (table-1).

Both primary and secondary sources were used to compile the necessary data for this study. The respondents were personally interviewed for the primary data using a pre-tried interview schedule. The questionnaires under the various headings were sufficiently detailed.

Table-1. Distribution of sample households based on occupation

Occupational Groups	Mugaiyur Block			Total
	Veerapandi	Kandachipuram	Oddampattu	
Agriculturist	10	10	10	30
Agricultural labour	10	10	10	30
Other workers	10	10	10	30
Total	30	30	30	90

The household enquiry included details on their socio-economic status including employment level, income, food consumption pattern, consumption expenditure income spent on various food items, clothing, shelter, education, health, festivals, recreation, other miscellaneous items, commodities purchased through public distribution system, amount spent on PDS and access to food at various situations.

For the purpose of in-depth investigation, the sample households were stratified into three occupational groups based on household occupation as Agriculturist, Agricultural labour and Other (Non-Agricultural) workers.

Analytical tools :

The descriptive analysis was undertaken using percentage analysis to analyse the general characteristics of respondents like age, family size, educational level, occupational pattern, income and expenditure pattern and savings pattern, etc.,

Households rather than individuals were used as unit of measurement (table-2) for two reasons. Firstly, the household was the frame for consumption decisions. Secondly, the households acted as the economic unit on the income side. A household consists of adults (male and female) and children of different age groups. To overcome the age differences of individuals in a household, the data were converted into per unit consumption to arrive at more appropriate and meaningful results. For this purpose, Lusk Co-efficient (Rao, 1982) was used in this present study. These conversions facilitated inter-family comparisons and prevented the likely specification error.

Table-2. Standardization of Households

S. no.	Sex and Age of the family member	Lusk Coefficient (Consumption unit)
1.	Above 14 years (Male)	1.00
2.	Above 14 years (Female)	0.83
3.	Between 11-14 years (Male and Female child)	0.83
4.	Between 5-10 years (Male and Female child)	0.73
5.	Below 5 years (Child)	0.50

Engel's curve :

As per a priori expectation, Engel's law of consumption stated that "when income increases, the percentage of income spent on food declines". Engel's curves were estimated for food, clothing, education, recreation, health, festival, social and other items of expenditure. The Engel's curve was shown as the relationship between expenditure on the consumption of a particular commodity and the level of income. In this study, the linear functional form with income and family size as independent variables were used. The choice of the functional form was based on the observed relationship between the dependent and independent variable in the scatter diagram. The general functional form estimated in this study was

$$E_i = \beta_{0i} + \beta_{1i} Y + \beta_{2i} N + u_i$$

Where,

E_i - Expenditure on the i^{th} commodity
Y - Annual income in rupees
N - Family size in consumption units
β_{1i} & β_{2i} - Parameters to be estimated
β_{0i} - Constant term
u_i - Error term

The expenditure for a particular commodity was measured by the amount of money spent on that commodity. The individuals in the households were converted into consumption units using Lusk coefficient and the family size was measured in terms of consumption units.

Engel's ratio :

An Engel's ratio for each item of expenditure to total expenditure has been estimated for each item of food and non-food item separately. Following that, sample families were divided into various comparable expenditure classes. For each category of spending, the Engel ratio is estimated for each food and non-food item. Finding the relationship between Monthly Per Capita Consumption Expenditure (MPCE) and its categorization derived from total annual expenditure in all items has been done in order to examine the differences in the expenditure on non-food as well as food items among the households belonging to different income levels, education levels, occupation categories, and family size. Sample households have been grouped into different expenditure classes and income classes for better understanding. For finding out the association between expenditure pattern and occupation, the sample households are grouped in to different occupation groups.

Engel's curve estimates on consumption expenditure :

It is seen from the (Table-3). that the estimated functions have shown significant R^2 values. The co-efficient for annual income has shown significance at 5 per cent level and also annual income had a positive influence on the expenditure of the households in Agriculturist category and negative influence on Agricultural labour and Other workers category.

The co-efficient for family size was also positive and significant at 5 per cent level except for health and recreation in Agriculturist category and clothing and others in Agricultural labour and Other workers category. It could be also concluded that size of the family also had positive influence on the expenditure pattern of the households.

The estimated R^2 of the co-efficient of multiple determination function indicated

Table-3. Engel's Curve Estimates on Consumption Expenditure of Sample Households

S. no	Particulars	Agriculturist				Agricultural Labour				Other Workers			
		Intercept	Annual Income	Family Size	R^2	Intercept	Annual Income	Family Size	R^2	Intercept	Annual Income	Family Size	R^2
1.	Food	24561.97** (5262.55)	-0.0080** (0.041)	12604.05** (2270.96)	0.62	43940.25* (6531.501)	0.03447** (0.04071)	1903.11* (2311.45)	0.63	29760.53* (6539.163)	0.03877* (0.0143)	4310.71** (2000.39)	0.53
2.	Clothing	5029.709** (1718.318)	0.0550** (0.0135)	-790.35* (741.51)	0.78	1120.574** (2141.152)	0.04593* (0.01334)	17.454*** (757.737)	0.64	10872.730** (4088.693)	0.04119** (0.00896)	-2169.80* (1250.77)	0.67
3.	Education	-36106.9* (10910.87)	0.02450** (0.0862)	8886.465** (4708.40)	0.51	-36040.99* (7714.134)	0.45916** (0.04806)	1198.378** (2729.97)	0.76	-21188.99** (17916.82)	0.28540* (0.03929)	-293.29** (5480.92)	0.58
4.	Health	-422.5049* (4040.424)	0.0732** (0.0319)	-858.26* (1743.57)	0.80	2280.0703** (1019.214)	0.00429** (0.006354)	612.9960** (360.6924)	0.82	3950.0334** (1710.44)	0.008078** (0.00375)	99.365*** (523.24)	0.44
5.	Recreation	488.680** (649.560)	0.01241** (0.00513)	-318.328* (280.306)	0.51	-1218.4219** (1972.527)	0.02974* (0.01229)	201.5488** (698.0629)	0.70	1558.518** (666.7778)	0.004194** (0.00146)	-251.43** (203.97)	0.54
6.	Festival	-3643.032** (4039.118)	0.06542** (0.319)	534.394** (1743.01)	0.48	-2894.479** (2713.161)	0.06922* (0.01691)	233.5771** (960.167)	0.55	2078.973** (8036.1621)	0.07795** (0.01762)	-1856.4** (2458.33)	0.60
7.	Social	79.3957*** (506.9384)	0.00051* (0.0040)	299.476** (218.76)	0.67	239.2820* (998.240)	0.01356* (0.00622)	-127.504* (353.270)	0.45	-822.984** (1180.074)	0.014379* (0.00258)	-120.515* (360.99)	0.45
8.	Others	-103.3423* (257.29)	0.0024** (0.0020)	69.709*** (111.031)	0.54	-306.842* (514.383)	0.00169** (0.00320)	277.366* (182.036)	0.49	5087.8244* (4269.76)	0.01491** (0.00936)	-804.40** (1306.16)	0.74

*** - Significant at 1 per cent level

** -Significant at 5 per cent level

* -Significant at 10 per cent level

that the two independent variables included in the model would account for the appropriate percentage variation in the level of the consumption expenditure.

The discussions of individual function estimated are given below :

Food :

The variable annual income and family size had a positive and significant at 5 per cent level for Agriculturist and Agricultural labour negatively significant for Agriculturist category with 5per cent and 10 per cent level influence on the expenditure on food. An increase in a rupee of annual income would increase the expenditure on food by Rs. 0.008, Rs. 0.034 and Rs.0.038 and the co-efficient of family size would increase the expenditure on food by Rs. 12,604.25, Rs. 1, 903.11 and Rs. 4, 310.71 in all the three occupational groups respectively.

Clothing :

The annual income and family size had influenced the expenditure on clothing positively. An increase in a rupee of annual income would result in the increase of expenditure on clothing by Rs. 0.055, Rs. 0.045 and Rs. 0.041 and the one unit increase in the family size would increase the expenditure on clothing by Rs. 790.35, Rs. 17.454 and Rs. 2,169.80 in all the three occupational groups respectively.

Education :

The co-efficient of household's annual income and family size showed a significant at 5 per cent level and positive influence on the expenditure on education for Agriculturist, Agricultural labour and negative influence for other workers on the households. The increase in a rupee of annual income would increase the educational expenditure by Rs. 0.024, Rs. 0.459 and Rs. 0.285 and in addition of one unit to the family size would increase the expenditure on education by Rs. 8,886.46, Rs. 1,198.37 and Rs. 293.29 in all the three occupational groups respectively.

Health :

The variables of annual income and family size had positive and significant at mostly 5 per cent level on the expenditure of sample households on health. It is evident that an increase in one unit to the family size would lead to an increase in expenditure of Rs. 858.26, Rs. 612.99 and Rs. 99.365 on health and one unit increase in household income would increase the expenditure on health by Rs. 0.073, Rs. 0.004 and Rs. 0.008 in all the three occupational patterns of households respectively.

Recreation :

The co-efficient of the variable annual income shown positive and significance, but the family size was negative and significant in Agriculturist and other workers group. The results revealed that the increase in a rupee of annual income would lead to an increase in expenditure on recreation by Rs. 0.012, Rs. 0.029 and Rs. 0.004 and a unit increase in the family size would decrease the expenditure on recreation by Rs 318.28, Rs. 201.54 and Rs. 251.43 in the all the three occupational patterns of households respectively.

Festival :

The annual income and family size had shown negative and significant influence on Agriculturist group and Agricultural labour and positively significant for Other workers on the expenditure towards festivals. The co-efficient of households' income showed that an increase in one rupee of annual income would contribute to increase in expenditure on festival by Rs. 0.065, Rs. 0.069 and Rs 0.077 and an additional one unit to the family size would increase festival expenditure by Rs.534.39, Rs.233.577 and Rs. 1,856.4 in all the three occupational patterns respectively.

Social and others :

The co-efficient of the variable of annual income and family size had shown positive and significance and the variable of family size and annual income had shown negative and significant influence on the others expenditure on households. The co-efficient of family size on social expenses was positive and concluded that an additional one unit in the family size would decrease the expense by Rs. 299.46, Rs. 127.50 and Rs. 120.515 and the co-efficient of the variable of family size had shown positively influence for Agriculturist and negatively significance for Agricultural labour and Other workers and the expense by Rs. 69.70, Rs. 277.36 and Rs. 804.40 in all the three occupational patterns of households respectively.

From the Engel's curve estimates it could be concluded that addition to the annual income and family size of the households would significantly contribute to increase in expenditure on necessities like food, clothing, education, health, recreation, festival, social and others.

This study has given a clear picture on the variation in consumption pattern and consumption expenditure among different occupational groups. From the results of this study, it could be inferred that the household income is dependent on the occupation pattern of the household also, the consumption expenditure is dependent on income. Hence the increase in the household income can positively affect the consumption pattern and expenditure. It is suggested as a policy measure to provide additional employment opportunities in the rural settings, thereby enhancing the household income.

This way the number of days of employment per household can be increased leading to the enhanced income of the household. An addition to the household income is expected to positively impact the consumption expenditure. Though MGNREGAs is in place contributing to guaranteed employment in the rural areas, there is still a gap to be filled in terms of income earned by the household.

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