



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE

An Analysis of Income and Expenditure Patterns of Urban Household in the Sylhet Metropolitan Area

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Manuscript Info

Manuscript History:

Received: 15 March 2015

Final Accepted: 18 April 2015

Published Online: May 2015

Key words:

Keynesian consumption function
and Engel Law

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Abstract

This study is concerned with examining and comparing the income and expenditure patterns of different types of urban households in the Sylhet metropolitan area. Households are classified into three categories namely Sylhety, Migrated Sylhety and Non-sylhety to make the comparison meaningful. As the study shows household head of original city dwellers (i.e. Sylhety) and of dwellers that are from other region of Sylhet (i.e. Migrated Sylhety) have more years of schooling than that of migrated from other districts (i.e. Non-sylhety). Main occupation of the household head is business in Sylhet, however job and other fixed income sources are found as prime profession for the household heads who are from other districts. For all households in study area, Keynesian consumption function was verified and results support this function for all the categories. Although, household from other districts have maximum marginal propensity to consume among the three categories, income is the main determinant of expenditure for all types of households. Both income and expenditure of the household migrated from other districts is significantly lower than that of greater Sylhet. Food expenditure increases with income but proportion of income spent on food decreases for all types of households and this finding confirms that Engel Law does work in the study area.

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INTRODUCTION

Bangladesh is broadly divided into seven administrative divisions and Sylhet is one of them. City dwellers of the metropolitan area are a combination of both native and migrated people either from other districts of Sylhet division or from other division of Bangladesh or both. The native one is original city dweller known as 'Sylhety', another group is migrated from other region of Sylhet that is 'Migrated Sylhety' and the third type known as 'Non-sylhety' is the household who migrated from other division of Bangladesh. In the presence of different racial groups, the income-expenditure patterns may differ among households. Household expenditure patterns are largely influenced by the household's needs, preferences, and financial means. In addition to their current income derived from the ownership of factors of production, households may finance their expenditure from a number of sources such as wages, remittances, etc. Among all the racial groups in the metropolitan area, Sylheties are comparatively better off, as most of them receive remittances from their family members staying outside. Household (or Migrated Sylhety) who migrated from other districts of Sylhet is mainly due to getting job, better education and other urban facilities. Third type of household (or Non-sylhety) who migrated from other division of Bangladesh has two categories. One are educated who came here for job purpose but other category is the most significant in numbers and economically

vulnerable that migrated only because of poor working opportunities in their own area. The level of household income is often a major determinant of expenditure patterns of households, and hence differences between patterns of expenditure are largely a reflection of differences in income between household groups to individual households. Since there is huge variation in income sources and other socioeconomic status of the household living in the Sylhet metropolitan area, consumer's behavior in this area varies significantly. Therefore, it is very important to examine the income and consumption pattern of the urban area. Apart of the main objective of the study, we are to estimate the Engel's function for household of different localities living in the study area. Despite the presence of research work on this issue in other countries, no study has been carried out yet in Bangladesh. Therefore, it is very timely attempt to do this study.

REVIEW OF LITERATURE

There are few relevant literatures that relate the expenditure of a household on a particular good to the total household expenditure on income. In a study, Frazao, E. et al (2007) examines household food spending patterns and how they differ across income level. As income increases, total food spending also increases but the increase of food spending is smaller than the increase of income. This pattern is consistent with Engels law. Engel law might be described as "food first" budget allocation for low-income households. As income increases households may spend some of that additional income on food but increase their spending more than proportionately on other nonfood items. The low income households spend more on fruits and vegetables when income goes up. The higher income households do not consume enough fruits and vegetables to meet Dietary Guidelines Recommendations.

Fabiosa, J. F. et al (2008) estimate a system of Engel functions for two survey periods, 1999/2000 and 2004/2005, to quantify the impact of changes of income on household expenditure behavior and to investigate how expenditure responses changes with income. It is found that rural households have a higher expenditure share for food categories but a lower share for non-food categories compared to urban households in both the 1999/2000 and 2004/2005 HIES (Household Income and Expenditure Survey). In contrast, the rural household expenditure share of 48.7% in the non-food category is lower than the 55.2% share of urban households. The elasticities for food categories are higher in the 2004/2005 period compared to the 1999/2000 period for both urban and rural households. In contrast, the elasticities for non-food category decreased between the two periods for both urban and rural households i.e. from 1.18 to 1.17 in urban households and from 1.32 to 1.09 in rural households.

Household Expenditure Survey 1993-94 in Australia was conducted by the Australian Bureau of Statistics. This survey uses the multistage area sample to measure the private household expenditure pattern on goods and services. The important variables of the survey include household geographic information and family type, age sex, marital status, birthplace, year of arrival in Australia, language, labour force characteristics, education characteristics and detailed information of income. This file contains a three level hierarchical record structure. The first record in the structure contains characteristics of the household, the second contains characteristics of the person and the third contains details of expenditure on any of the expenditure items.

In another study, Ke Xu, et al (2007) examines the household expenditures and the health expenditure collected in the WHS (World Health Survey) in terms of reliability. The test-retest information is used to examine external reliability for Intra-class-coefficient (ICC). The ICC for the test-retest responds for total household expenditure and expenditure on education, food and health. The range shows the 95% confidence intervals around the mean estimate of the ICC. The value of the test-retest ICC was higher in some of developing countries like, Srilanka, Myanmar, China, Uruguay, Indonesia and Pakistan. Moreover, ICC was lower than 0.5 in Nepal and the Dominican Republic. Health expenditure is a share of total household consumption. The WHS is more appropriate to use the aggregated household expenditure in order to estimate the share of health in total household expenditure.

DATA AND METHODOLOGY

Required data for the study were collected through printed questionnaire from three types of household i.e. Sylhety, Migrated sylhety and Non-sylhety in Sylhet metropolitan area. In addition to that, stratified random sampling method was used to collect data. The sample size of the study is 132 where household is treated as sample unit.

Two types of analysis were done to achieve the objectives of the study. One is tabular analysis to show the socioeconomic characteristics and to make a comparative study among the three categories of household. Another one is econometric analysis to examine the determinant of household's expenditure and also to verify the Engel Law for the study area. To find out the determinants of expenditure the following multiple linear regression models have been used;

$$E_m = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + U_i \quad (1)$$

Where, E_m = Monthly total expenditure of the household, X_1 = Household monthly total income, X_2 = No. of member in the family, X_3 = No. of earning member in the family, $\beta_1, \beta_2, \beta_3, \beta_4$ = Parameters of the model and U_i = Disturbance term. To estimate the marginal propensity to consume and compare it among locality, the consumption function has been estimated. The function is as follows;

$$Y_i = \alpha_1 + \alpha_2 X_i + V_i \quad (2)$$

Where, Y_i = Monthly total expenditure, X_i = Monthly total income, α_1, α_2 = Parameters of the model, V_i = Disturbance term. Now to verify the Engel's law, first we have to explain the relationship between monthly total food expenditure of the households and household monthly total income. Then we have to show the relationship between proportions of income devoted to food of the households and household monthly total income. So following models have been estimated to illustrate this relationship.

$$Y_f = \alpha_1 + \alpha_2 X_i + V_i \quad (3)$$

Where, Y_f = Monthly total food expenditure, X_i = Monthly total income, α_1, α_2 = Parameters of the model, V_i = Disturbance term.

$$X_{fp} = \alpha_1 + \alpha_2 I_i + V_i \quad (4)$$

Where, X_{fp} = proportion of income devoted to food, I_i = Monthly total income, α_1, α_2 = Parameters of the model, V_i = Disturbance term.

RESULTS AND DISCUSSIONS

Socioeconomic characteristics of the households:

Total size of the sample is 132 that means, data are collected from 132 households in Sylhet Metropolitan area, where Sylhety, Migrated Sylhety and Non-sylhety are 43 households, 43 households and 46 households respectively. Moreover, Muslims & Hindu households are 97 and 35 respectively. When our concentration is put on occupation status, it is found that main occupation of the original city dweller is service and business that is also same for all other types of households. However, 60% of household head that migrated from other districts are engaged with service which is significantly higher than the other groups. Among the three groups, local city dwellers are more involved in business compared to the households who migrated from other districts. The possible reason is that local people receive remittances and can invest easily. But people from other districts come here for the purpose of jobs. Although average year of schooling of household head is not so different among the three groups, original city dwellers have the highest years of schooling which is 12.16 years. Moreover, about 11.56 years and 10.43 years of schooling are for Migrated Sylhety and Non-sylhety respectively. Household's monthly income is about thirty six thousands taka for original city dwellers. However, about thirty four thousands is calculated as monthly income for the households of other region of Sylhet. Moreover, Non-sylhety household's monthly income is about twenty four thousands that is significantly lower than that of other two groups. This may be that most of the household heads from other district are service holder whereas other households from local groups are businessmen. Original city dwellers are wealthier than the dwellers from other region of Sylhet and also the dwellers from the other districts. Local dwellers take more loan as they are intensively involved in business than that migrated from other districts who are involved in service and other income generating sectors other than the business. But amount of loan is significantly higher for original city dwellers than the other two groups.

Table 1: Socioeconomic characteristics of the households

Variables	Household	Sylhety	Migrated Sylhety	Non-sylhety	Total
Religion	Islam	30 (69.8%)	30 (69.8%)	37 (80.4%)	97 (73.5%)
	Hindu	13 (30.2%)	13 (30.2%)	9 (19.6%)	35 (25.5%)
Occupation	Service	16 (37.2%)	12 (27.9%)	27 (58.7%)	55 (41.7%)
	Business	13 (32.2%)	13 (30.2%)	5 (10.9%)	31 (23.5%)
	Retired	7 (16.3%)	4 (9.3%)	0 (0.0%)	11 (8.3%)
	Others	7 (14.3%)	14 (32.6%)	14 (30.4%)	35 (26.5%)
Year of Schooling	Mean (year)	12.16	11.56	10.43	11.36
Monthly Income	Mean (TK)	35513	34384	24319	31240
Wealth	Mean (TK)	5932493 (43.2%)	4736380 (34.6%)	2841295 (22.2%)	4465614 (100%)
Loan	Mean (TK)	355581 (64.6%)	110406 (20.1%)	79000 (15.4%)	179329 (100%)
Saving	Mean (TK)	299418 (31.6%)	413493 (43.6%)	219268 (24.8%)	308648 (100%)
Monthly Expenditure	Food	13488 (40.3%)	10791 (32.2%)	8592 (27.5%)	32871
	Non-Food	20909 (59.3%)	1270 (67.8%)	13229 (72.5%)	35409
	Mean (TK)	34398 (100%)	32062 (100%)	21821 (100%)	88281

Source: Data collected from Sylhet metropolitan area

Accordingly savings is higher for local dweller than that of migrated from other districts. But it is highest for the households who migrated from other region of Sylhet. It may be that this area is more remittance intensive area than others. Original city dwellers spend more on food, entertainment and transportation than who migrated from other region of Sylhet and from other districts. But household from other region of Sylhet spend more on education and clothes than others. Households from others district spend significantly less than other two types of households in all sectors. Non-food expenditure is significantly higher than food expenditure for all type of households. Total expenditure of original city dwellers and who migrated from other region of Sylhet is TK 34000 and TK 32000 respectively. However, total spending is only TK 21000 for the households who migrated from other districts.

Determinants of household expenditure:

As the estimation of the model (1) determines the relationship between household monthly incomes, household size, number of earning members and household monthly expenditure is positive which is expected in the study area. As the results shows, the marginal propensity to consume for the study area is 0.73 that is as the income increases by one taka, on an average the expenditure increases by seventy paisa which is the major determinant of expenditure. The household expenditure increases by TK 318 for additional number of family members which is not significant. The model shows a good fitting and it is significant at any level.

Table 2: estimation of the model (1)

Variable	Coefficients	t-value	Sig.	R ²	F
Constant (autonomous expenditure)	3595.77	1.16	0.25		
Household monthly total income	0.73	13.45	0.00	0.62	68.17
No of member in the family	318.45	0.61	0.55		
No of earning member in the family	629.11	0.45	0.65		

Source: Data collected from Sylhet metropolitan area

Estimation of the consumption functions for different types of households:

Estimated consumption function shows that marginal propensity to consume for original city dwellers, migrated households of other region of Sylhet and those who are migrated from other districts are 0.70, 0.74 and 0.89 respectively. Households from other districts have the highest MPC as they have the lowest income among three groups which is expected.

Table 3: estimation of the model (2)

Locality	MPC	MPS= (1-MPC)
Original City dweller (Sylhety)	0.70	0.30
Migrated from other region of Sylhet (Migrated Sylhety)	0.74	0.26
Migrated from other districts (Non-sylhety)	0.89	0.11

Source: Data collected from Sylhet metropolitan area

Verification of Engel Law in the study area:

As Table 4 shows the relationship between household food expenditure and households income is positive for all types of households. That is, as income increases, its food expenditure also increases. But the estimation also shows that the relationship between proportions of income devoted to food and household income is negative for all types of households. That is, as income increases, proportion of income devoted to food decreases. This observation is fully consistent with the well-known Engel Law.

Table 4: Engel Law: estimation of model (3) and (4)

Locality	Coefficient (Household monthly total income)*	Sig.	Coefficient (Household monthly total income)**	Sig.
Sylhety	.204	.012	-1.05E-005	.009
Migrated Sylhety	.160	.000	-3.74E-006	.000
Non-sylhety	.189	.000	-2.04E-005	.054

*Dependent variable: household food expenditure

** Dependent variable: household proportion of income devoted to food

Food and non-food expenditure by different income group:

Here households are classified into five income groups for each type. As the Table 5 shows food expenditure increases as we move from lower income group to higher income group. This is observed for all three types of households. The following figure shows upward sloping curve indicating that food expenditure increases with income.

Table 5: Food expenditure by different income group

Income Group (TK)	Sylhety (Mean)	Migrated Sylhety (Mean)	Non-sylhety (Mean)
1- 20000	7090.91	5565.63	5413.64
20001- 40000	14780.00	10425.00	10460.82
40001 – 60000	11936.36	11714.29	11250.00
60001 – 80000	20000.00	17500.00	22150.00
80001 – 100000	27250.00	12825.00	9000.00

Source: Data collected from Sylhet metropolitan area

Though food expenditure increases as income increases, the proportion of income spent on food decreases as income increases for all type of households as well as for total households in the study area which is shown in the following table. Table 6 shows that as income increases percentage of income spent on food decreases and this is valid for three types of household. So it can be said that expenditure behavior follows the Engel Law in the study area.

Table 6: percentage of income spent on food

Income Group (TK)	Sylhety (in %)	Migrated Sylhety (in %)	Non-sylhety (in %)	Total (in %)
1- 20000	92.43	47.00	93.47	82.87

20001- 40000	49.04	36.62	35.26	40.04
40001 - 60000	27.99	28.26	26.13	27.79
60001 - 80000	27.97	24.10	34.34	28.80
80001 - 100000	30.35	14.27	10.51	22.92

Source: Data collected from Sylhet metropolitan area

CONCLUSION

Significant variation in income and expenditure patterns is found in the households, even though they live in a same locality. Among three types of household in the study area, original city dwellers earn more income than the others. But household migrated from other districts earn significantly less income than the other two types of households. Moreover, similar variation is observed in household expenditure. Consequently household from other districts have maximum marginal propensity to consume among the three categories. Household head of original city dwellers and of dwellers that are from other region of Sylhet have more years of schooling than who migrated from other districts. Main occupation of the household head is business in Sylhet, however job and other fixed income sources are found as prime profession for the household head who are from other districts. Food expenditure increases with income but proportion of income spent on food decreases as income increases for all types of household and also for the whole study area. So after examining the income and expenditure pattern, it can be concluded that household who migrated from other districts may be worse off comparing with the households of greater Sylhet.

References

- Bruce B. (1996). Household Income Sharing, Joint Consumption and the Expenditure Patterns of Australian Retired Couples and Single People. *Social Policy Research Centre, the University of New South Wales, Discussion Paper No. 66*.
- Frazao, E., Andrews, M., Smallwood, D. and Prell, M., (2007). Food spending patterns of Low–Income Households. *Economic Information Bulletin Number 29-4, United States Department of Agriculture.-4*
- Houthakker, H. S. (1957). An international comparison of household expenditure patterns, commemorating the centenary of Engel's law. *Econometrica, Journal of the Econometric Society*, 532-551.
- Fabiosa, J.F. and Soliman, I. (2008). Egypt's Household Expenditure Pattern: Does It Alleviate a Food Crisis? *Working Paper 08-WP 475. Center for Agricultural and Rural Development Iowa State University. BAmes, Iowa 50011-1070*.
- Ke Xu, Ravndal, F., Evans, D. and Carrin, G. (2007). Assessing the reliability of household expenditure data: results of the World Health Survey. *Discussion Paper 05/2007, World Health Organization*.
- Researc Leser, C.E.V. (1963). Forms of Engel Functions. *Econometrica*, Vol. 31, pp. 694-703.
- Thomas, D. (1993). The distribution of income and expenditure within the household. *Annales d'Economie et de Statistique*, 109-135.
- Wagner, J. E., Deller, S. C., & Alward, G. (1992). Estimating economic impacts using industry and household expenditures. *Community Development*, 23(2), 79-100.