

Ahmad, Nisar; Sheikh, Muhammad Ramzan; Saeed, Kashif

Article

Rural urban food consumption analysis in Pakistan: Expenditure elasticities approach

Pakistan Journal of Commerce and Social Sciences (PJCSS)

Provided in Cooperation with:

Johar Education Society, Pakistan (JESPK)

Suggested Citation: Ahmad, Nisar; Sheikh, Muhammad Ramzan; Saeed, Kashif (2015) : Rural urban food consumption analysis in Pakistan: Expenditure elasticities approach, Pakistan Journal of Commerce and Social Sciences (PJCSS), ISSN 2309-8619, Johar Education Society, Pakistan (JESPK), Lahore, Vol. 9, Iss. 1, pp. 159-170

This Version is available at:

<https://hdl.handle.net/10419/188187>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by-nc/4.0/>

Rural Urban Food Consumption Analysis in Pakistan: Expenditure Elasticities Approach

Nisar Ahmad

Department of Economics, University of Sargodha, Bhakkar, Pakistan
Email: nisarahmad_25@hotmail.com

Muhammad Ramzan Sheikh

Department of Economics, Bahauddin Zakariya University, Multan, Pakistan
Email: ramzansheikh@bzu.edu.pk

Kashif Saeed

Department of Commerce, The Islamia University of Bahawalpur, Pakistan
Email: Kashif.saeed@iub.edu.pk

Abstract

The rural urban food consumption patterns are estimated and compared in Pakistan in the present study. The Household Integrated Economic Survey (HIEs), 1998-99 data published by the Federal Bureau of Statistics, Islamabad is used. The rural urban food consumption analysis at household level is carried out by dividing the households into five income groups at national and provincial levels. The expenditure elasticities of different food groups are estimated across the different income levels to know the differences among the rural urban household food consumption. The results of the study indicate that rural and urban households have different food consumption patterns. However, households in the low level income groups spend a larger fraction of their income on wheat, pulses and vegetable while high income groups on rice, meat and fish, milk and milk products both in rural and urban areas.

Keywords: Household Integrated Economic Survey (HIEs), rural food consumption pattern, urban food consumption pattern.

1. Introduction

The households living in rural and urban areas make expenditure on different commodities to attain utility and satisfaction. The expenditure on food commodities and items are most important in the household behavior as food is basic nutritional ingredient for every human being. Therefore, in the analysis of consumer behavior, the food consumption is said to be the expenditure made by the consumer on different food commodities, which he purchases to meet the daily food needs. It is observe that people incurred expenditure on food items like wheat, rice, vegetables, fruits, meat and such other kitchen items. The consumption of these food items of any household is generally the function of income of household, prices of commodities, taste of the consumer and other factors. Consumption function establishes relationship between consumption and real disposable income of the consumer treating other factors constant.

Consumption expenditure on food commodities are used to indicate the living standard of the household in a developing country like Pakistan. The food expenditures are also used to measure the poverty level in the country. Consumption expenditure also incurred upon the non-food items including electricity, clothing, furniture, housing, transport and education; etc. to facilitate the several aspects of human life. Therefore, the analysis of consumption and consumption patterns provides an insight into status of human resource of a country. Therefore, consumption analysis of food at rural urban basis explains the differences among regions in the country and provides the rational for future investment planning decisions in the country. Such studies have attained special focus in recent years in wake of globalization and concerns about food security.

2. Objectives of Study

Keeping in view the importance of food consumption, the main objective of the study is to analyze food consumption pattern of rural urban households in Pakistan at national as well as on provincial basis with different income groups. The study will be helpful to compare and contrast the food consumption pattern among different regions in the Pakistan. Expenditure elasticities of selected food commodities are calculated to know the differences in consumption pattern of households belonging to rural urban areas of Pakistan.

3. Review of Literature

Aguiar and Hurst (2005) show a comparison between household food consumption patterns, expenditures and their status of unemployment and retirement in the United States. The analysis is estimated by using two data sets that are the National Human Activity Pattern Survey (NHAPS) and the Continuing Survey of Food Intake of Individuals (CSFII) for the year 1989-91 and 1994-96. Permanent Income Hypothesis (PIH) is employed to estimate income expenditure elasticities. The relationship between household food expenditures, time spent on food production, and actual food consumption is also examined. The changes in an individual's food consumption after retirement is judged by the nutritional composition of the individual's diet, individual categories of food consumption, consumption goods with an observable quality component and consumption index. The consumption and expenditure analysis is based upon the criteria of food consumption at home and away from home.

Syrovátka (2007) investigates the household demand pattern for various meat and meat products by using the Household Expenditure Survey (HES) data of the years 1995-2000 in Czech. The exponential properties of Engel's curve and income elasticities are estimated by employing the Dynamic Engel model with the help of Ordinary Least Square (OLS) technique. The highest magnitude of income elasticity is resulted in the first quarter data of 1995 while lowest magnitude of income elasticity is resulted in the fourth quarter data of 2000. It is also evaluated that meat and meat products are considered to be luxuries for Czech households during the whole study period. The overall meat demand pattern is only dependent upon the real level of household income. The meat and meat products demand rises due to increase in the income level of the households during the study period.

Fabiosa and Soliman (2008) determine the household expenditure pattern for four food and non-food consumption heads in the urban and rural areas of Egypt. The main focus of the study is to address the problem of food crisis and its alleviation measures. Household

Income, Expenditure and Consumption Survey (HIECS) data of the eras 1999-2000 and 2004-2005 is used to analyze income-expenditure shares and elasticities by employing Working-leser model. The HIECS data of 2004-05 give higher food consumption elasticities as compare to the HIECS 1999-2000. There is not so much difference between the expenditure shares of two survey periods and all the estimates of expenditure categories are significant at one percent level in all equations. Lower income households show a higher demand pattern for food rather than non-food commodities. It is also observed that the rural households are more responsive to change in income for food categories as compare to urban households.

Tey *et al.* (2009) compare the rural and urban household vegetables consumption trend and determine the impact of household characteristics upon demand patterns of vegetable in Malaysia. Semi Logarithmic functional form is used to estimate expenditure elasticities applying Weighted Least Square (WLS) technique. The data is obtained from the Household Expenditure Survey (HES) of the year 2004-2005. The expenditure elasticities are found less than unity. Vegetable expenditures are found negatively related with the household size in rural urban Malaysia and these expenditures are positively related with the age of household members. Urban households show a higher quality demand pattern for bulb, stem and processed vegetables whereas rural households make a quality demand for fruiting, flowering and podded vegetables. The demand for leafy and salad vegetables in both areas is positively affected by the income of the households.

Obayelu *et al.* (2009) assess the comparison of food consumption pattern in the rural and urban areas of North-Central Nigeria. Household food consumption survey data of the phase 2006-07 is used to analyze the household consumption differential for 15 food items and nine types of meat commodities. The impact of household demographic and socioeconomic characteristics is also determined and the overall estimation is done by employing Double-Hurdle model. It is observed that the consumption of rice, oil, bread, soft drink, sugar and milk is most common among urban households while yam and cassava flour are the major consumed items of rural households. In case of meat items beef, goat meat and fish are majorly consumed in the urban areas while bush meat and ponma in the rural areas. The consumption of eggs, beans and such type of protein are very lower due to high cost of these products and less awareness of the households about its importance.

Oguoma *et al.* (2010) scrutinize the aggregate household demand system for edible oils in the Imo State of Nigeria. Primary data is used in this study which is conducted from the stratified random sample of 92 consumers of the two products across the three agricultural zones in the state. Cobb-Dougllass model is used to estimate own price, cross price and income elasticities whereas the consumer preferences are determined by the logistic techniques. The own and cross price elasticity of palm kernel oil is higher as compare to the groundnut oil and it is not a close substitute for it. The demand for palm kernel oil is reduces while for groundnut oil increase with an increase in consumers disposable income so the income elasticity of palm kernel oil is lower as compare to the groundnut oil. It is evaluated that if there is the reduction in the palm kernel price and increase in the groundnut price then it will lead a strong competition between them for revenue generation in the state.

Parpiev and Yusupov (2011) examine the household consumption pattern for seven food and non-food consumption heads in rural and urban areas of Uzbekistan. Parametric and

nonparametric forms of Engel curves are estimated by using the Uzbekistan Regional Panel Survey (URPS) data of the interlude 2005. The main focus of the study is to deal with the problem of reported zero expenditures and to investigate the impact of household characteristics on their demand by employing the Tobit estimation technique. It is examined that the existence of economies of scale is most common in the household consumption of education, clothing, transportation and health as compare to the shelter and food consumption. The influence of household size on food is highly negative for richest households as compare to poor and it is statistically insignificant for almost 25% of poor population. The expenditure allocation for shelter is negatively significant for all income groups; for health is positively significant for middle income classes and positively significant for all the other commodities in all income groups.

4. Theoretical Framework

The research study on a specific topic is always carried out by exploring the related theoretical structure. Therefore, the theoretical framework of the research study is developed by explaining the associations of the concerned variables. These variables are identified through interviews, observations, and literature survey. The building and construction of the model building is important for the evaluation of the specific research problem. Modelling the household consumption is much complicated and complex task in the applied economics.

Innovative work related to modelling of household behaviour is completed first time in the 1950s by Richard Stone. Cramer (1957) advance a neoclassical model integrating the demand for durable and non-durable goods with the life cycle theory of Ramsey (1928), Fisher (1930), Tinter (1938) and Modigliani and Brumberg (1955) under the guidance of Stone. The essence of the model lies in the assumptions that the budget constraint is linear and known with confidence and in efficiency-corrected units; new and used durables are perfect substitutes. Stone (1954) first applied the stock adjustment model to the demand for durables.

In most empirical studies on the household's consumption patterns, which are based on a single year cross-section data, it is customary to assume that for every commodity all the households face the same prices and each individual faces the same utility function. However, these assumptions are hardly true. In practice, cross section data does not satisfy the conditions of single utility function. The preference ordering may very well change from household to household depending upon the composition, e.g. number of adults, children and females. There are various methods to take into consideration the household composition effects in the Engel curve estimation.

Houthakker (1960) suggested that just deflate both demand and total outlay by household size so that consumption is the same function of the budget and prices for all households. Or other way is to use household size as an additional variable in the formulation of Engel curve. Houthakker (1961) pointed out that coefficient of household-size represents a combination of two effects, viz., the 'specific effect' and the 'income effect'. The 'specific effect' refers to the effect resulting from an increase in the need for various commodities when the household-size increases. The increase in need is, however, usually less than proportional to the increase in the household-size because of 'economies of scale' in the large household. The 'income effect' refers to the effect when an increase in the household-size makes the family relatively poorer in per capita income terms. If

the ‘specific effect’ dominates the ‘income effect’, the coefficient of the household-size is positive; and negative otherwise. Another approach is to divide all expenditure by a corresponding equivalence scale that converts the data to a need corrected basis.

In the light of Engle law, with an increase in income the share of expenditure on food in total household expenditure tends to decrease, that on clothing, fuel and lighting remains constant, and that on luxury goods increases. It is in this context that we should insert Engel’s work, in which he stated the famous “Engel’s law”, ‘the poorer a family, the higher is the proportion of its total expenditure on foodstuffs; moreover, the wealthier a nation, the smaller the proportion of foodstuffs in total expenditure’. After the empirical generalization of the “Engel’s law”; Schwabe, the director of the central statistical office in Berlin, analyzed the relation between wages and rent for a sample of public employees and added in 1868 that is known as “Schwab’s Law”. This law states that the poorer a family, the higher is the proportion of the income spent on rent.

Engel (Expenditure) elasticities are powerful research tool in the analysis of consumer behavior, because informative results are concluded for the evaluation of consumption patterns. In economics the deviation from proportionality of one variable with respect to another variable is measured by elasticity. Thus, if expenditure on a certain item is proportional to income (or total expenditure) then the income elasticity of demand, better known as Engel elasticity, is unity. On the other hand, if expenditure on the item rises more than proportionately with income, Engel elasticity is greater than one and if expenditure on the item rises less than proportionately with income, Engel elasticity will be less than one.

This concept is helpful in categorizing the commodities into different groups. The commodity is considered to be a necessity if having elasticity less than unity, a need if having elasticity equal to unity and a luxury if having elasticity greater than unity. The elasticities of different commodities with respect to total expenditure are calculated and results are compared across the commodities groups and income groups. These results provide the guideline for future policy implication in respect of the management of the demand and consumption of different commodities in the country.

5. Data and Methodology

The data of rural urban households is taken from Federal Bureau of Statistics, Islamabad. This type of data is known as secondary source of data. For this purpose cross sectional data compiled in the Household Integrated Economic Survey (HIES), 1998-1999 is used. The households are classified into five income groups to analyze food consumption of rural urban households at national and provincial basis in Pakistan. These five income groups (IG) include two low-income groups, IG 1 = Rs.1001-1500 and IG 2 = Rs.1501-2000, two high income groups, IG 4 = Rs. 6001 to 7000 and IG 5 = Rs.7001 to above and mean of all income groups i.e. IG 3. The included food items in the analysis are:

- | | |
|----------------------------------|-----------------------------|
| (i) Wheat and Wheat Flour | (ii) Rice and Rice Flour |
| (iii) Pulses, Split and Whole | (iv) Milk and Milk Products |
| (v) Meat and Fish | (vi) Poultry |
| (vii) Fruits and Dry Fruits | (viii) Vegetables |
| (ix) Tea, Coffee, and Soft Drink | (x) Food (Aggregate) |

A single utility function for all the rural urban households is assumed to estimate the expenditure elasticities within each income groups, and that preference ordering does not change across families. It is also assumed that for every commodity all the households face the same prices because household survey does not provide information on market prices. In estimating Engel's curve, the consumption of different food commodities is usually taken in terms of expenditure rather than quantities, because of the problem of aggregation of heterogeneous items, and because expenditure takes care of the changes in both the quantity and the quality of the goods consumed. The last assumption in this regard is that expenditures are used as proxy for income.

The choice of an appropriate functional form in estimating the Engel's curve is a matter of great interest. As such, various functional forms, e.g., linear, double logarithmic, semi-logarithmic, etc. are frequently used by the researchers (Gujarati, 1998). For the present analysis, few functional forms are experimented. However, the results of hyperbolic form are provided here as these results are found more appropriate and consistent with the theory. The items for which a saturation level is expected a hyperbolic or reciprocal form is better suited. i.e. $Y_i = \alpha_i + \beta_i (1/X)$. The slope and expenditure elasticity from this form are: Slope = $dY/dX = -\beta_i(1/X^2)$ Elasticity = $dY/dX * Y/X = -\beta_i (1/XY)$. A hyperbolic form has the property that there is an initial income below that an item is not purchased. Here X is the per capita expenditure on commodity 'i' and Y is the per capita total expenditure (income) of the household. For calculating expenditure elasticities, the values of the parameters α_i and β_i are estimated using method of Ordinary Least Squares (OLS). The parameter β_i is used for the calculation of the slopes and elasticities.

6. Results and Discussion

The expenditure elasticities of different food items consumed by rural urban households across the different income groups at national and provincial levels are reported in Table 1 to Table 5.

In so far as the results of expenditure elasticities of various food groups of rural urban households are concerned, they are ranged to lie between zero and one for necessities and greater than unity for luxuries. It can be argued on the basis of these estimates, the rural urban households in different income groups exhibit different consumption patterns and in general, they alter their consumption bundle both quantitatively and qualitatively in response to changes in income.

Table 1: Expenditure Elasticities, Pakistan Rural Urban

Commodity Groups	Rural Income Groups					Urban Income Groups				
	Low IG		Mean	High IG		Low IG		Mean	High IG	
	IG 1	IG 2	IG 3	IG 4	IG 5	IG 1	IG 2	IG 3	IG 4	IG 5
Wheat & WF	0.53	0.46	0.37	0.36	0.26	0.12	0.09	0.05	0.06	0.04
Rice & RF	0.66	0.59	0.52	0.50	0.33	1.99	1.62	0.59	0.84	0.37
Pulses	0.79	0.66	0.51	0.46	0.36	0.44	0.35	0.21	0.27	0.15
Milk & MP	1.35	1.23	0.82	0.85	0.47	1.68	1.03	0.52	0.77	0.32
Meat & Fish	5.45	4.63	1.84	1.78	0.93	4.87	2.35	0.71	1.13	0.41
Poultry	4.28	3.52	1.77	1.52	0.86	7.08	2.87	0.90	1.68	0.47
Fruits & D	3.46	2.97	1.65	1.52	0.82	3.52	2.19	0.71	1.12	0.40
Vegetables	0.47	0.42	0.33	0.31	0.24	0.64	0.42	0.24	0.32	0.17
Tea & Soft Drink	1.70	1.28	0.90	0.85	0.56	1.78	1.27	0.52	0.83	0.31
All Food	1.14	1.02	0.72	0.68	0.45	1.29	0.74	0.42	0.60	0.27

Source: Calculated from HIES, 1998-99; WF = Wheat Flour, RF = Rice Flour & MP = Milk Product

A perusal of results show that in majority cases, the expenditure elasticities for lower income households are high as compared to those for the higher income and the mean income households. For example, expenditure elasticities for all rural urban Pakistan, 1998-99 in Table 1 confirms this statement for every commodity. In case of meat & fish, the expenditure elasticity in the rural areas for lower income group is 5.45 and 4.63 as compared to 1.78 and 0.93 for higher income groups and 1.84 for the mean income group respectively.

In urban areas, these expenditure elasticities for lower income group are estimated as 4.87 and 2.35 as compared to 1.13 and 0.41 for higher income groups and 0.71 for the mean income group respectively. Estimated expenditure elasticities of meat & fish are observed high in the rural areas as compared to the urban areas. It indicate that the rural households have less access to meat & fish and the people living in these areas are nutrients deficient due to low levels of income. This statistics about the meat & fish shows that expenditure elasticity is declining as moving from lower income groups to the higher income groups in both cases of rural and urban areas. The same is to be found for other food commodities in rural and urban areas.

As expected, the elasticity estimates for individual food items (in disaggregate terms) provide some useful insight into the consumption level of various income groups. The elasticities for most of food items found to be less than unity. Wheat, rice, pulses and vegetables having elasticity less than unity across different income groups i.e. lower, mean and higher income groups. The elasticity of milk and tea increases than unity only in the lower income groups but not in the mean income group and higher income groups.

For example in Table 2, the expenditure elasticity of vegetables for rural households in Punjab is found to be 0.98 and 0.81 in lower income groups, 0.72 in the mean income group and 0.50 and 0.51 in the higher income groups.

Table 2: Expenditure Elasticities, Punjab Rural Urban

Commodity Groups	Rural Income Groups					Urban Income Groups				
	Low IG		Mean	High IG		Low IG		Mean	High IG	
	IG 1	IG 2	IG 3	IG 4	IG 5	IG 1	IG 2	IG 3	IG 4	IG 5
Wheat & WF	0.99	0.82	0.65	0.47	0.43	0.71	0.64	0.19	0.19	0.09
Rice & RF	1.38	0.96	0.97	0.56	0.53	1.36	1.10	0.44	0.62	0.25
Pulses	1.47	1.22	0.82	0.54	0.56	0.60	0.43	0.25	0.30	0.16
Milk & MP	1.38	0.86	0.98	0.71	0.52	2.02	1.27	0.59	0.82	0.33
Meat & Fish	3.96	1.22	1.29	0.94	0.61	0.77	0.59	0.45	0.40	0.19
Poultry	4.77	3.56	1.78	1.15	0.80	4.37	2.98	0.93	1.63	0.44
Fruits & D	2.36	1.40	1.36	0.95	0.65	3.88	2.18	0.75	1.04	0.38
Vegetables	0.98	0.81	0.72	0.50	0.51	0.55	0.37	0.21	0.26	0.14
Tea & Soft Drink	2.48	1.43	1.63	1.13	0.97	1.48	1.03	0.45	0.76	0.25
All Food	1.77	1.30	0.91	0.64	0.54	1.28	0.78	0.43	0.59	0.25

Source: Calculated from HIES, 1998-99; WF = Wheat Flour, RF = Rice Flour & MP = Milk Product

For urban areas, these elasticities are observed as 0.55 and 0.37 in lower income groups, 0.21 in the mean income group and 0.26 and 0.14 in the higher income groups. Keeping in view the above discussion, it is concluded that all the food items in the highest income group are of low elasticity i.e. less than unity. In the mean income group, the majority of food items are having elasticity less than one and a small number of items having greater than unity. High expenditure elasticities of poultry and fruit are found in the low level income groups of both rural and urban households in Punjab. It explains the deficiency of these food items for low level income households not only in the rural areas but also in the urban areas of the Punjab.

The consumption pattern may vary among provinces of Pakistan and also in between the rural urban areas of the specific province. It can be observed with the help of expenditure elasticities of the commodities consumed in that specific region and province of Pakistan. For instances, a perusal of expenditure elasticities for rural Sindh given in Table 3 indicates that the elasticity for rice is 0.21 and 0.11 in the lower income groups, 0.07 for mean income household, and 0.02 and 0.01 in the higher income groups, respectively. For urban areas, the elasticity for rice is 0.67 and 0.56 in the lower income groups, 0.38 for mean income household, and 0.59 and 0.27 in the higher income groups, respectively.

Table 3: Expenditure Elasticities, Sindh Rural Urban

Commodity Groups	Rural Income Groups					Urban Income Groups				
	Low IG		Mean	High IG		Low IG		Mean	High IG	
	IG 1	IG 2	IG 3	IG 4	IG 5	IG 1	IG 2	IG 3	IG 4	IG 5
Wheat & WF	0.48	0.34	0.27	0.24	0.20	0.39	0.33	0.46	0.25	0.16
Rice & RF	0.21	0.11	0.07	0.02	0.01	0.67	0.56	0.38	0.59	0.27
Pulses	0.53	0.47	0.31	0.29	0.23	0.08	0.14	0.07	0.11	0.06
Milk & MP	0.73	0.62	0.42	0.36	0.27	1.51	1.16	0.52	0.83	0.36
Meat & Fish	1.54	1.12	0.74	0.69	0.46	4.82	2.12	0.75	1.24	0.52
Poultry	2.24	1.89	1.11	0.84	0.58	4.32	3.59	0.90	1.17	0.55
Fruits & D	9.45	6.36	1.49	1.29	0.81	1.90	1.82	0.74	1.34	0.48
Vegetables	0.07	0.06	0.05	0.05	0.04	0.38	0.35	0.23	0.31	0.18
Tea & Soft Drink	2.42	2.08	0.96	0.84	0.62	0.81	0.76	0.46	0.79	0.31
All Food	0.81	0.75	0.45	0.70	0.32	1.14	0.76	0.45	0.70	0.32

Source: Calculated from HIES, 1998-99; WF = Wheat Flour, RF = Rice Flour & MP = Milk Product

It explains that urban households have greater elasticities as compared to the rural households in case of Sindh. Therefore, the rural people are more inclined towards the consumption of the rice. It may be due to rice is their staple food and they have develop the taste for the consumption of the rice. This range is also to be found very much lower as compared to other provinces of Pakistan.

Table 4: Expenditure Elasticities, NWFP Rural Urban

Commodity Groups	Rural Income Groups					Urban Income Groups				
	Low IG		Mean	High IG		Low IG		Mean	High IG	
	IG 1	IG 2	IG 3	IG 4	IG 5	IG 1	IG 2	IG 3	IG 4	IG 5
Wheat & WF	0.36	0.25	0.41	0.19	0.11	0.45	0.20	0.19	0.25	0.14
Rice & RF	2.89	1.71	1.25	1.22	0.79	2.60	2.23	0.75	1.04	0.46
Pulses	0.22	0.15	0.15	0.14	0.13	0.49	0.26	0.26	0.29	0.19
Milk & MP	0.93	0.82	0.70	0.65	0.47	1.38	0.65	0.57	0.93	0.34
Meat & Fish	3.99	3.00	2.36	2.44	1.23	2.61	1.13	0.84	1.59	0.45
Poultry	2.74	2.14	1.57	1.54	0.88	4.36	2.54	1.12	2.79	0.54
Fruits & D	5.82	2.34	1.80	1.76	1.02	2.15	1.37	0.79	1.67	0.42
Vegetables	0.98	0.59	0.57	0.54	0.44	0.58	0.55	0.32	0.48	0.21
Tea & Soft Drink	0.75	0.57	0.49	0.46	0.37	0.32	0.22	0.20	0.31	0.14
All Food	0.98	0.72	0.63	0.61	0.44	1.03	0.87	0.46	0.72	0.29

Source: Calculated from HIES, 1998-99; WF = Wheat Flour, RF = Rice Flour & MP = Milk Product

For the analysis of wheat consumption, it is observed that expenditure elasticity is highest in Balochistan and is lowest in the NWFP for both rural and urban households. The results about these elasticities are reported in Tables 5 and 4 respectively. In Table 5, the estimates of wheat elasticity for rural households of Balochistan are 1.79 and 1.20 for lower income group, 0.79 for mean income group; and 0.88 and 0.64 for higher income groups. For the urban households, the estimates of the elasticities are 0.53 and 0.36 for lower income group, 0.29 for mean income group; and 0.24 and 0.22 for higher income groups.

Table 5: Expenditure Elasticities, Balochistan Rural Urban

Commodity Groups	Rural Income Groups					Urban Income Groups				
	Low IG		Mean	High IG		Low IG		Mean	High IG	
	IG 1	IG 2	IG 3	IG 4	IG 5	IG 1	IG 2	IG 3	IG 4	IG 5
Wheat & WF	1.79	1.20	0.79	0.88	0.64	0.53	0.36	0.29	0.24	0.22
Rice & RF	2.88	2.72	2.33	1.93	1.05	1.26	0.94	0.97	0.83	0.76
Pulses	0.76	0.64	0.51	0.53	0.46	1.48	0.91	0.82	0.87	0.83
Milk & MP	0.25	0.19	0.17	0.17	0.13	0.89	0.27	0.51	0.82	0.62
Meat & Fish	2.19	1.50	0.97	1.04	0.75	4.56	2.24	1.17	1.24	0.91
Poultry	3.51	2.82	1.30	1.27	1.02	3.26	2.29	1.26	1.46	0.92
Fruits & D	3.54	2.81	1.33	1.44	0.95	7.27	3.83	2.56	2.57	1.94
Vegetables	0.08	0.06	0.05	0.06	0.04	2.57	2.04	1.36	1.34	1.13
Tea & Soft Drink	1.26	0.98	0.68	0.76	0.58	0.95	1.76	0.83	0.90	0.76
All Food	0.87	0.84	0.59	0.65	0.48	1.96	1.67	1.14	1.23	0.98

Source: Calculated from HIES, 1998-99; WF = Wheat Flour, RF = Rice Flour & MP = Milk Product

Whereas in Table 4 for comparison with NWFP, wheat elasticities for rural households in NWFP are 0.36 and 0.25 for lower income group, 0.41 for mean income group and 0.19 and 0.11 for higher income groups. For the urban households, these elasticities are 0.45 and 0.20 for lower income group, 0.19 for mean income group and 0.25 and 0.14 for higher income groups.

For rural urban food consumption comparison, it is found that rural NWFP households have highest elasticities for meat & fish in the lower income groups. These elasticities are 3.99 and 3.00 for rural NWFP households in the lower income groups as compared to all other provinces. In Sindh for the lower income groups, the elasticity for meat & fish 1.54 and 1.12 respectively; in Punjab are 3.96 and 1.22; in Balochistan are 2.19 and 1.50 showing that people of low income groups in rural areas of NWFP have less consumption of meat & fish as compared to other provinces. For lower income groups in urban areas, the elasticity for meat & fish is found highest in Sindh. These elasticities are 4.82 and 2.12 for urban Sindh households in the lower income groups as compared to all other provinces. In Punjab for the lower income groups, the elasticity for meat & fish are 0.77 and 0.59; in NWFP are 2.61 and 1.13; in Balochistan are 4.56 and 2.24 respectively. It shows that people of low income groups in urban areas of Sindh have less consumption of meat & fish as compared to other provinces.

7. Policy Implications

The results of the study indicate that the households of lower income groups in Pakistan as well as in all provinces have higher expenditure elasticities of different food items as compared to the higher income groups. It explains that the living standard of people in the domain of lower income groups is very low. These households are unable to meet the basic nutrients required for the family. For example, the consumption of meat & fish is lower in the lower income groups in the rural NWFP households and urban Balochistan households. Therefore, the government is suggested to launch such type of projects that would raise the income level of these people and government may provide the necessary food items to the poor families at cheaper rates.

REFERENCES

- Aguiar, M., & Hurst, E. (2005). Consumption versus Expenditure. *Journal of Political Economy*, 113(5), 919-948.
- Cramer, J. S. (1957). A Dynamic Approach to the Theory of Consumer Demand. *Review of Economic Studies*, 24, 73-86.
- Fabiosa, F. J., & Soliman, I. (2008). Egypt's Household Expenditure Pattern: Does it alleviate a Food Crisis? Working Papers 2008:475, Center for Agriculture and Rural Development, Iowa State University.
- Gujarati, D. (1998). Basic Econometrics. 3rd Edition, *New York: McGraw-Hill*
- Houthaker, H.S. (1960). Additive Preferences. *Econometrica*, 28 (3) 244-257
- Houthakker, H. S. (1961). The Present State of Consumption Theory. *Econometrica*, 29 (4) 704-740.
- Oguoma, N. N. O., Ehirim, N. C., Benchendo, C. N., Nnadi, I., & Okoronkwo, E. N. (2010). Determinants of Aggregate Household Demand for Edible Oils in Imo State. *African Journal of Agricultural Research*, 15(5), 1932-1936.
- Obayelu, A. E., Okoruwa, V. O., & Oni, O. A. (2009). Analysis of rural and urban households' food consumption differential in the North-Central, Nigeria: A micro-econometric approach. *Journal of Development and Agricultural Economics*, 2(1), 18-26.
- Parpiev, Z., & Yusupov, K. (2011). Testing Household Economies of Scale in Uzbekistan. *Eurasian Journal of Business and Economics*, 7(4), 25-51.
- Pakistan, Government of (2001). Household Integrated Economic Survey 1998-99. *Federal Bureau of Statistics, Islamabad*.
- Syrovátka, P. (2007). Exponential model of the Engel curve: Application within the income elasticity analysis of the Czech households' demand for meat and meat products. *Agric. Econ - Czech*, 53(9), 411-420.
- Stone, R. (1954). Linear Expenditure System and Demand Analysis: An Application to the pattern of British Demand. *Economics Journal*, 64, 511-27.
- Tey, Y. S., Mad, N. S., Zainalabidin, M., Jinap, S., & Abdul, G. R. (2009). Demand for Quality vegetables in Malaysia. *International Food Research Journal*, 16, 313-327.