Pattern on household monthly consumption expenditure: Cross-sectional study of Punjab, India

Saroj Kumar Rana (Research Scholar)[1], Professor Dr.Gurcharan Singh Ghotra [2] and Associate Dr. Professor Rajni Saluja[1]

[1] *Desh Bhagat University, Mandi Gobindgarh, Punjab, (India)*

[2]*RIMT University, Mandi Gobindgarh, Punjab, (India)*

ABSTRACT:

Human life is nourished and sustained by consumption. The abundance of consumption is the life blood of human development. Consumer is the king or sovereign in the economic empire. Consumption habits and pattern are determined by a complex set of socio-economic, cultural, religious, psychological, ethical and environmental factors. It's widely known that consumption expenditure is one of the major components of GDP and it is equally important to both macro-economists and micro-economists. Consumption is an important activity performed by the household sector is primarily of two types i.e. lifeline and lifestyle. Consumption in variably depends on income of a person and his assets. Economic reforms introduced by Government of India in 1991 have affected the per capita income to larger extent and also has influenced the consumption pattern of masses. Consumption expenditure is increasing due to increase in urbanisation, breaking up of the traditional joint family system, desire for quality food, lack of time which translates into an increased need for convenience. The objective of the study is to see the Intra districts variation of pattern of consumption expenditure in Punjab and to see the association of determinants and pattern of consumption expenditure. Two-stages sampling was used for data collection, first stage sampling covered the selection of census villages in the rural areas and urban frame survey block in the urban sector and second stage covered selected households using random sampling. Total 65,932 households and 333,104 persons were covered by interviewed all over 29 states and 7 union territories of India and 1529 households and individuals 7797 were covered in 20 districts of Punjab.. *Study reveals that average monthly consumption expenditure (Rs.12228) and* per capita Average Monthly consumption expenditure (Rs.2642). Mostly households have average expenditure in between Rs.5000 and Rs.10, 000. Urban, Non SC, other type of houses, more than three member family and Hindu showed more average monthly charges. Family size (β^{-}0.27), Area (β= 0.20) and houses (β =-0.13) showed significant change in pattern of consumption in Punjab.

Keywords: *Average monthly consumption expenditure, Consumption pattern, Household size, House type*

I. INTRODUCTION

During few decades, the world consumption has expanded at an unprecedented pace. The benefit of advantage of consumption has spread far and wide and today, more people are better fed and housed than ever before. In India also the existence of large disparities in consumption standards between regions and between classes of people is found. Per capita income, the standard of living, consumption etc are important determinants of the economic status of the society. The standard of living of a household can be understood from the consumption pattern and the quality of consumption budget clearly indicates welfare of the household. Per capita income and food consumption both are the indicators of human development but food consumption is a better indicator of human welfare. Wide economic disparities have been observed between the rich and poor especially have low rate of economic change among the poor section of the population who generally fail to use the development programmes. Household final consumption expenditure (also known as private consumption) is the market value of all goods and services, including durable products (such as cars, washing machines and home computers), purchased by households, and also payments and fees to governments to obtain permits and licenses [1]. The pattern of expenditure changes over time result of changes in household income, taste and preferences, tax and subsidies, and relative prices. Consumption patterns provide the structure for everyday material life, and this structure creates economic distance across classes. People belonging to different classes of income have different structures of consumption. Rich people spend more for each class of items in absolute terms, but they spend low percentage of income for food and basic needs and poor people spend higher percentage of income on food and other basic needs. Lifestyle is a term to describe the way a person, household and society live. It reflects the attitude, interests, activities, values and allocation of income. The change in consumption pattern is observed due to changes in consumer taste, preference and income at micro level and structural shift in the overall environment at macro level. It ultimately affects the buying behavior of consumers. Consumption is an important activity performed by the household sector. Whatever personal income we obtain, from one source or the other, is spent either on consumption or is Saved.

Economic growth, rapid urbanization, an increase in disposable income, and changes in tastes and preferences have resulted in a shift in consumption pattern from traditional food items to high-value food commodities, especially during the past two decades [2]. Across rural areas, the change in consumption pattern from traditional to high-value commodities (HVCs) is more in those regions that are experiencing a better development in infrastructure [3]. It is found decline in per capita household demand for food grains [4]. This change in consumption of food commodities is mainly because of a shift in consumption away from cereals to high-value food commodities such as milk and milk products, meat, eggs and fish, vegetables, and fruits [4,5], while projecting the demand for food commodities in India by 2020, anticipated diversification in the consumption pattern toward high-value agricultural products. Income growth and urbanization [6,7]. Consumption is the value of goods and services bought by people. Consumption is normally the largest GDP component. Before Economic Reforms, consumption comprised of approx 52% of the GDP, however after reforms, it has grown its share to more than 62%,[8]. Estimates of consumption expenditures provided by the Central Statistical Organisation (1998) indicate that items relating to food, beverages and tobacco account for almost 45% of the total private consumption expenditure in India, and food items alone account for more than

39%. Consumption expenditure is increasing due to improve in urbanization, breaking up of the original joint family system, desire for quality food, insufficient time which translates directly into an elevated significance of convenience. The rural consumers in India take into account about 73 percent of the full total consumers. Lately, the lifestyle of a sizable quantity of rural consumers in India has changed dramatically and the procedure of change is on. The buying behaviour of the rural consumers is influenced by several factors such as for example socio-economic conditions, cultural environment, literacy level, occupation, geographical location, efforts on the element of sellers, experience of media etc. The buyer movement in India till now has been confined to the middle-income group citizens in urban areas..Food and food products take into account about 53 per cent of the worthiness of final private consumption. This share is significantly more than in developed economies, where food and food products take into account about 20 per cent of consumer spending. In India, most food consumption remains at home.

II DATA AND METHODOLOGY

Objective

- To see the monthly consumption pattern among demographic in Punjab.
- To see the intra- district pattern of monthly consumption in Punjab.

Hypothesis

- To access the significance pattern of monthly consumption pattern among demographic.
- Monthly expenditure shows significant difference among demographic of Punjab.

Study design

The study design based on the secondary data set of a nationwide survey collected by the National Sample Survey Organisation from January –June 2014.

Data source

The data source was the representative nationwide survey collected by the National Sample Survey Organization (NSSO) in its 71st round (2014) on 'Health' and 'Education'. The data was collected in all states of India from January 2014 to June 2014. For this study unit levels data extracted for the Punjab state for the mentioned above period. For present study of unit level data for household monthly consumption expenditure is taken for Punjab state and districts respectively.

Methodology

Two- state stratified sampling design was used for the study. 1st stage sampling covered the selection of census village in the rural areas and urban frame survey block in the urban sector. In 2^{nd} stage sampling covered household was selected by using random sampling. Survey covered total of 4577 villages and 3720 urban blocks were surveyed from which 36,480 and 29,452 households were sampled in rural and urban areas respectively. Total 1529 households and individuals 7797 were covered in 20 districts of Punjab. The face-to-face interviews were conducted using an interview schedule, on households characteristics, Individual characteristics, morbidity (self-reported), utilization of health care services (including types) and household expenditure on health care.

III.DATA PROCESSING & DATA ANALYSIS

Data was analysed using SPSS version 21.0 for analysis (SPSS Inc. SPSS Statistics for Windows, Version 21.0. Chicago). Wealth quintiles are generates for all households using monthly per capita consumption expenditures. Based upon this, the households divide into five groups, ranging from the bottom 20% of the sample with lowest

consumption expenditure, to the top 20% households of the sample with highest consumption expenditure. Data is extracted based on basic households amenities type of latrines, drainage system, types of cooking fuel, sources of drinking water and characteristics like religion, caste, family size, and nature of house type, urban and rural areas.

IV RESULT:

Objective 1: To see the monthly consumption pattern among demographic in Punjab

Overall average monthly consumption expenditure was Rs.12228 and average per capita monthly consumption expenditure was Rs. 2642 for Punjab. Urban (Rs.13930) shows more average monthly consumption expenditure and per-capita average monthly consumption expenditure (Rs.3164) and rural (Rs.10541) and per-capita average monthly consumption expenditure (Rs.2126) respectively. Non SC (Rs.12233) shows average expenditure more than SC (Rs.11188) and Non SC (Rs.2646) shows more average per capita than SC (Rs.1820). (Table1)

Pattern of average monthly and per capita consumption among type of houses

Houses with self-employed in agriculture/ Non agriculture (Rs.14142) shows more average than regular wage/salary earning (Rs.10333), other houses (Rs.10312) and casual labour in agriculture/ non agriculture (Rs. 7465) respectively. Average per capita expenditure shows houses with self-employed in agriculture/ Non agriculture (Rs.2938) shows more average than regular wage/salary earning (Rs.1551), other houses (Rs.10312) and casual labour in agriculture/ non agriculture (Rs.1551 respectively. (Table1)

Pattern of average monthly and per capita consumption among wealth quintile

Richest quintile (Rs.20723) shows more average consumption expenditure more than rich (Rs.10406) medium (Rs.7571), poor (Rs.5449) and poorest (Rs.3258) households whereas based on per capita expenditure richest quintile (Rs.4013) shows more per capita average consumption expenditure more than rich (Rs.2331), medium (Rs.1842), poor (Rs.1562) and poorest (Rs.1369 households respectively. (Table1)

Pattern of average monthly and per capita consumption among Family size

More than three members (Rs.13121) shows more average consumption expenditure than three member (Rs.9680), two member (Rs.8688) and one member (Rs.4126) whereas in average per capita, two member (Rs.2387) shows more average consumption expenditure than one member (Rs.4126), three member (Rs.3227) and more than three member (Rs.2387) respectively.(Table1)

Pattern of average monthly and per capita consumption among Religion

Hindu (Rs.12773) shows more average consumption than Non Hindu households (Rs.11824) where average per capita expenditure found more in Hindu (Rs.2863) than Non –Hindu households (Rs.2489). (Table1)

Table 1: Pattern of average monthly consumption, average per capita and average family size among household's characteristics, Punjab, NSSO-2014

		Average Monthly consumption expenditure	Per capita Average Monthly consumption expenditure
Overall		12228	2642
Area	Rural	10541	2126
	Urban	13930	3164
Social Group	SC	11188	1820
	Non SC	12233	2646
House type	self-employed in agriculture/ Non agriculture	14142	2938
	regular wage/salary earning	10333	2127

	casual labour in agriculture/ non agriculture	7465	1551
	others	10312	3774
Wealth quintile	Poorest	3258	1369
	Poor	5449	1562
	Medium	7571	1842
	Rich	10406	2331
	Richest	20723	4013
Family Size	One member	4126	4126
	Two member	8688	4344
	Three member	9680	3227
	More than Three member	13121	2387
Religion	Hindu	12773	2863
	Non-Hindu	11824	2489

Hypothesis 1: To access the significance pattern of monthly consumption pattern among demographic

To prove this hypothesis, chi-square test is used to see the significance between the different level of monthly household expenditure and demographic characteristics. It was seen that the consumption level shows significance association with Area, house type, wealth quintile and family size where non significance association with Social groups and Religion. Mostly households in urban (48.8%) as well rural (38.5%) shows their consumption between Rs 5000-10000 whereas in more than Rs. 20,000 level, rural (4.9%) and urban (12.5%) houses shows consumption.

Non SC (43.7%) and SC(37.5%) houses shows consumption levels between Rs.5000-10,000 and Non SC (12.5%) and SC(10.5%) houses shows consumption levels more than Rs.20,000. Houses with regular wage/salary earning (48.43%) and casual labour in agriculture/ non agriculture (62.75%) average expenditure between Rs.5000-10,000 and where as houses belongs self-employed in agriculture/ Non agriculture (15.11%) shows more expenditure with level more than Rs.20000. Poorest houses shows expenditure less than Rs.5000, Poor (53.4%) expenditure between Rs. 5000-10000, medium (1000%) housed have consumption level between Rs.5000-10,000 where richest houses shows consumption levels Rs.10000-15000 (37.6%), Rs.15001-20000 (31.9%) and more than Rs.20,000 (30.6%) respectively. One member family (79.4%) mostly shows consumption level less than Rs. 5000 and two member (44.58%), three member (50.75%) and more than 3 member (43.10%) where more than three member (12.14%) shows Rs, >20,000 consumption levels. Mostly Hindu houses (42.6%) and Non Hindu (44.6%) shows consumption level between Rs. 5000-10000 and this consumption pattern in non significant in nature (Table 2)

Table 2: Significance of pattern of average monthly consumption in Punjab, NSSO-2014

Consumption level		<Rs.5000	Rs. 5000-10000	Rs.10000-15000	Rs.15001-20000	>Rs.20000	P value
Overall		13.5	43.7	21.3	11.0	10.5	<0.00**
Area	Rural	16.7	48.8	20.8	8.7	4.9	<0.00**
	Urban	10.4	38.5	21.7	13.3	16.2	
Social Group	SC	12.5	37.5	37.5	0	12.5	0.85
	Non SC	13.5	43.7	21.2	11.0	10.5	
House type	self-employed in	7.66	37.78	25.29	14.17	15.11	<0.00**

	agriculture/ Non agriculture						
	regular wage/salary earning	18.39	48.43	20.63	8.52	4.04	
	casual labour in agriculture/ non agriculture	26.67	62.75	8.63	1.57	0.39	
	others	25.51	40.82	16.33	10.20	7.14	
Wealth quintile	Poorest	100.0	0	0	0	0	<0.00**
	Poor	46.6	53.4	0	0	0	
	Medium	0	100.0	0	0	0	
	Rich	67.5	32.5	0	0	0	
	Richest	0	0	37.6	31.9	30.6	
Family Size	One member	79.4	20.6	0	0	0	<0.00**
	Two member	36.14	44.58	10.84	6.02	2.41	
	Three member	20.90	50.75	18.91	3.48	5.97	
	More than Three member	8.92	43.10	22.96	12.88	12.14	
Religion	Hindu	12.0	42.6	21.8	11.4	12.2	0.39
	Non-Hindu	14.5	44.6	21.0	10.6	9.3	

*p value is calculated by using chi-square value,** significant at 0.01 level of significance

Objective 2: To see the intra- district pattern of monthly consumption in Punjab

Intra- districts expenditure variation in shown in Table 3. Most of districts shows average pattern of expenditure variation between interval Rs.5000-10000. More than 60% households show monthly expenditure in Hoshiarpur, Firozpur and Mansa, between 40-60%, houses shows monthly expenditure in Kapurthala, Shahid Bhagat Singh Nagar, Ludhiana, Faridkot, Bathinda, Tarn Taran, Rupnagar, Sahibzada Ajit Singh Nagar and Barnala and remaining shows expenditure less than 40% respectively. For Rs.10000-15000 average, More than 25% houses shows expenditure in Ludhiana, Moga, Patiala, Rupnagar, between 15-25%, houses shows expenditure in Kapurthala, Jalandhar, Hoshiarpur, Shahid Bhagat Singh Nagar, Firozpur, Muktsar, Faridkot, Bathinda, Amritsar, Sahibzada Ajit Singh Nagar Sangrur, Barnala. For Rs. Rs.15000-20000 houses shows more than 15% expenditure in Gurdaspur, Kapurthala, Jalandhar, Fatehgarh, Sahib Patiala and Tarn Taran, between 10-15% houses shows expenditure in Ludhiana, Ludhiana, Rupnagar, Sahibzada Ajit Singh Nagar,and Sangrur. For more than Rs.20000, houses shows more than 15 % expenditure in Fatehgarh Sahib, Moga, Firozpur, Patiala, Sahibzada Ajit Singh Nagar and Sangrur, between 10-15% houses shows expenditure in Kapurthala and Jalandhar.(Table 3)

Table 3: Districts variation of pattern of monthly expenditure in Punjab, NSSO-2014

	< Rs.5000	Rs.5000-10000	Rs.10000-15000	Rs.15000-20000	More than Rs.20000
Gurdaspur	30.2	28.1	14.6	18.8	8.3
Kapurthala	3.1	46.9	20.3	15.6	14.1
Jalandhar	11.6	39.3	19.6	15.2	14.3
Hoshiarpur	7.5	65.0	17.5	6.3	3.8
Shahid Bhagat Singh Nagar	20.8	45.8	20.8	4.2	8.3
Fatehgarh Sahib	15.6	37.5	12.5	15.6	18.8
Ludhiana	10.2	42.0	25.6	11.9	10.2
Moga	4.7	39.1	28.1	10.9	17.2

Firozpur	11.6	39.3	24.1	8.0	17.0
Muktsar	14.1	60.9	17.2	3.1	4.7
Faridkot	9.4	53.1	21.9	6.3	9.4
Bathinda	17.5	51.3	17.5	5.0	8.8
Mansa	16.7	68.8	10.4	4.2	0.0
Patiala	6.3	33.3	27.1	17.7	15.6
Amritsar	24.8	38.0	21.2	8.8	7.3
Tarn Taran	26.6	32.8	18.8	17.2	4.7
Rupnagar	6.3	43.8	31.3	10.4	8.3
Sahibzada Ajit Singh Nagar	2.1	45.8	25.0	12.5	14.6
Sangrur	5.0	46.3	21.3	11.3	16.3
Barnala	18.8	47.9	20.8	8.3	4.2
Punjab	13.5	43.7	21.3	11.0	10.5

Hypothesis 2: Monthly expenditure shows significant difference among demographic of Punjab

To prove hypothesis 2, multiple regression is used to see the impact of monthly consumption expenditure on demographic characteristics (Religion, Family size, house types, social group and area). Consumption expenditure is linear relation to predictors of the study (Religion, Family size, house types, social group and area). R=45% and R^2=20% and F value =75.68 which shows significance at 0.01level of significance (Table 4) .Value of tolerance and Variance influence factor(VIF) both within limit and hence there was no problem of abnormality in data.

Table 4: Model summary

R	R^2	Adjusted R^2	Std. Error of the Estimate	F value	p value
0.45	0.20	0.20	0.54	75.68	0.00**

Independent variable = Log of monthly average consumption expenditure
Dependent variables = Religion, Family size, house types, social group and area

Based on beta coefficient, it is seen that House type, Family size and area shows significant change and remaining religion and social group showed non significant change towards consumption expenditure where as House type (Beta=-0.13) showed negative change and Family size (Beta= 0.27) and area (Beta= 0.20) showed positive change respectively .(Table5)

Table5: Significance of determinants and monthly expenditure

	Beta coefficient	Std. Error	t value	p value	Collinearity Statistics	
					Tolerance	VIF
Constant	8.13	0.41				
House Type	-0.13	0.02	-7.93	0.00**	0.82	1.22
Religion	0.03	0.03	1.04	0.30	0.83	1.20
Family size	0.27	0.02	12.9	0.00**	0.92	1.09
Social Group	-0.02	0.19	-0.12	0.90	0.99	1.01
Area	0.20	0.03	6.09	0.00**	0.73	1.37

*Significant at 0.01 level of significance

V. DISCUSSION:

The annual growth in consumer expenditure in rural areas between 2004-05 and 2009-10 was 1.90% and whereas 7.73% was in between 2009-10 and 2011-12 and similar trend was seen in urban area. Rural expenditure which, in real terms, was 61.4% of that in urban areas in 1993-94, came down to 57.5% of that in urban areas in 2011-12 (R Krishnaswamy, 2012). Study revels average monthly household expenditure equal to Rs. 12228, where as average Monthly consumption expenditure found more in Urban (Rs. 13939) than Rural (Rs. 10541). Per capita monthly expenditure found more in Urban (Rs. 3164) than Rural (Rs. 2126). In Punjab average per capita monthly consumer expenditure was worked out to Rs 1300. Out of this For rural sector, average MPCE of Rs 1234 comprised Rs 558 for food and Rs 676 for non-food articles. For urban sector, average MPCE of Rs 1483 comprised Rs 610 for food and Rs 873 for non-food articles.[9-10] In this paper, we taken into account selected social, economic and regional variables in determining consumption pattern. The results show household size is one of the important determinants of consumption. [11] Household size and its composition especially the number of children determine the allocation of household expenditure on different food items. As we know, income is closely related proxies to other variables such as education and occupation; it is expected to see variation across economic classes. It is seen that people belonging to higher income group are suppose to associated with healthier dietary pattern, which includes fruits, vegetables, oil and meat consumption. The higher income group people consume more these food items than their lower group may be because of higher income, socio-economic status increases which results into more knowledge and awareness of health and healthy food items. [12-18] Our results show that type of caste also affects food consumption pattern in rural India. Consumption of all food items is lower among Scheduled caste and Schedule tribe households than the others that include the so-called higher caste groups. However, we notice that caste is linked with wealth, earnings and opportunities. In India, people at the bottom of social ladder are at a higher risk of suffering pre-mature death, poor health and lack of treatment and care as compared to their better off.[19]Study revealed that Non SC (Including ST,OBC & Other), self-employed in agriculture/ Non agriculture house type, more than three member family and Non Hindu shows maximum average monthly household consumption expenditure. Maximum households show significant average expenditure between Rs.5000-10000. More than 60% in rural and 49% in urban houses showed average consumption expenditure upto Rs 10,000 where 34.4% in rural and 51.2% in urban shows average household expenditure more than Rs.10, 000. More of 60 % of houses of different types have average expenditure Rs.10,000. All wealth quintiles shows average expenditure upto Rs. 10,000, except richest quintile where houses shows average expenditure more than Rs.10, 000 respectively. More than 70% houses shows average expenditure upto Rs.10,000 and significant average trend was seen among family size. Intra analysis shows that more than 60% houses in Hoshiarpur,Shahid Bhagat Singh Nagar, Muktsar, Bathinda, Mansa, Amritsar and Barnala have average household expenditure upto Rs.10000 where as more than 40% houses in Moga, Patiala, Tarn Taran, Sangrur and Sahibzada Ajit Singh Nagarhas average house have average expenditure more than Rs.10,000 respectively. Family size, areas have positive and significant impact on household monthly expenditure where as house type have negative and significant impact on household monthly expenditure in Punjab.

VI. CONCLUSION:

Consumption including food and non food items varies among socio-economic groups and regions. Individual with higher and better incomes belongs to higher social group having nuclear family and working self employed show maximum intake of all food items, which make them nutritionally more secure and healthy whereas other socio-economic groups such as those with lower MPCE, large households, belong to Scheduled Tribe, Scheduled Caste, Muslims, agricultural labour and other labourers have a poorer diet in comparison to the national average and even to the other groups. The results showed that there were disparities among rural and urban for average monthly consumption expenditure, but the distribution of per capita consumption expenditure in rural area was somewhat fair than that of urban areas of Punjab. There are number of factors which make and shape food regions such as food culture, taste and preferences, local availability, market, income etc. Hence, it is clear from results that socio-economic and regional factors close each other make it necessary to find food policies with a focus on increasing access of marginalised sections and regions of society. These variation determinants of food consumption patterns and the social and regional context of food production and consumption ought to be taken into consideration in food policy, particularly in the context of large countries like India.

Authors' contributions

SKR was responsible for preparation of study proposal, analysis and interpretation of data and preparation of the first draft of the manuscript. GSG and RS were involved in writing, editing and giving final touch to manuscript. All the authors read and approved the final manuscript.

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Competing interests

The authors declare that they have no competing interest.

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