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Mapping the Consumption Expenditure Pattern of West Bengal: Some Revelations on the Recent State of Development

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Abstract: ***The structural transformation of the Indian economy from an agriculture based economy to service sector based economy has resulted in gradual hybridization of the Indian consumer society in the dart of adopting the western culture. The rampant transformation is accompanied by increasing use of consumer durables. Thus, the Indian economy being one of the largest of its kind has emerged as one of the attractive destinations of the producers' due to its substantially growing middle class and a slighter growing affluent class of consumers. There has been a series of debates on the prospects and sustainability of this booming consumption demand. Hence the study attempts to explore the current pattern of consumption keeping in view the diversity in pattern of distribution for the state of West Bengal The expenditure pattern depends on various economic, social, geographic and several others factors affected by some external stimuli. Hence, the study attempts to explore the extent of improvement using indicators from the consumption expenditure schedule on the basis of unit level data for the last two NSS rounds available i.e. Round 66th (2009-10) and Round 68th (2011-12). Keeping aside the debates on setting the poverty line, this paper also finds the level of poverty persistent in West Bengal and finds that the poverty is on a steady decline. Development indices have been constructed at the district level and the change in corresponding ranks over the years have been used to indicate the state of development or underdevelopment with respect to the indicator in concern.***

JEL Classification: I32, O15, P46
Keywords: Engel's law, poverty, consumption, development index

I. INTRODUCTION

Of all the economic activities which reflect human welfare, consumption is the end product. The individual welfare is reflected by the pattern and level of consumption of various items. By individual welfare, is meant the welfare of the individual consumer who buys goods and services for either self-consumption or for the household use i.e. he is the end user.

The items of consumption by the personal consumers which are categorized as food and non-food items vary across expenditure groups. Thus, there exists a wide variation in consumption patterns between and within households across various social, religious and regional groups as also between age, sex and occupation groups. Thus, there arises a need for mapping the consumers belonging to the dynamic consumer society which is gradually undergoing cultural and habitual transformation in their consumption behavior.

The Indian economy has witnessed a rapid structural transformation from an agriculture based rural economy to an industrialized urban economy, driven mostly by the services sector. The rampant transformation is accompanied by increasing use of consumer durables. Thus, the Indian economy being one of the largest of its kind has emerged as one of the attractive destinations of the producers' due to its substantially growing middle class and a slighter growing affluent class of consumers. There has been a series of debates on the prospects and sustainability of this booming consumption demand. The post reforms period has witnessed increased employment opportunities, improved competitiveness in the international market along with better provision of education, health and dwelling facilities; although some eminent scholars have pointed out that the inequality expressed in terms of poverty has gone up in the post reforms period. The organized service sector led growth has resulted in the improved figures of growth rate of GDP and various indicators but the fruits of development have not percolated equally into the lower strata and the unorganized section of people which include both rural and urban masses. In fact, the organized service sector employees and affluent businessmen are the major beneficiaries. The share of regular salaried workers in the total population is somewhere less than one-fourth. As Alan Durning (1992) says, 'high consumption is a precondition to neither full employment nor the end of poverty', so is true for a 'poor' country like India as well. The Indian economy although now considered as a developing economy catered by its sustained growth in GDP over the past decades also suffers from huge unemployment and income inequality entwined with poverty. Despite the consumption boom, the economy is well aware of the growing inequality in income and rising prices.

Rural urban differences in consumption patterns thus giving rise to consumption inequality are very much persistent in West Bengal vis-à-vis India. The state of Bengal, well known for its diverse topography ranging from 'Rarhs' in the north to alluvial coastal plains in the south bounded by the mangroves of Sunderbans is a leading producer of rice in India next to Andhra Pradesh. The economy of West Bengal is the third largest contributor in agricultural sector to real GDP. The growth performance of West Bengal has outperformed India's growth in agricultural sector in 2011-12. The agricultural sector witnessed a growth of 19.95 per cent (nominal) while India's average was around 9.45 per cent. In real terms, this growth was not much realized. This can be attributed to high food inflation in the country.

In the given scenario, there arises a need to map the present changes and improvements (if any) in terms of proportional expenses allocated across various items of importance, consumption of which are considered to be an indicator of development or transformation. Hence the development indices across various districts have been constructed for several expenditure heads and the districts have been ranked accordingly for the two rounds. The change in the ranks of each district indicates the performance over the years in terms of the indicator in question.

A. Rationale Of The Study

According to Economic Review as published by the RBI for 2011-12, West Bengal experienced an outstanding growth in agriculture with significant increase in yield, production and cultivated area. Except agriculture, all other sectors performed below the national average. The state now does not rely on agriculture to a large extent. There exists subsistence agriculture in West Bengal which implies that people mostly involved in it produce just enough to survive and meet their needs at the subsistence level. Although the state has recorded an outstanding growth in agricultural sector in 2011-12, the share of agriculture in the Net State Domestic Product has been gradually declining over the past two decades while that of the tertiary sector has been rising consistently (Table 1).

Table 1: Sectoral share in the Net State Domestic Product of West Bengal, 1981-2009

Shares of each sector in Net State Domestic Product (NSDP) of West Bengal			
	Primary	Secondary	Tertiary
1980-81 to 1989-90	40	15.6	44.4
1990-91 to 1999-2000	37.6	14.8	47.6
2000-01 to 2008-09	28	16.1	55.9

Source: GoI, Central Statistical Organization

The rapid growth of the tertiary sector driven by the services sector of West Bengal has stimulated urbanization with a population displacement from rural areas to urban and its outskirts. A huge informal sector has developed based on the urban conglomeration of several multinational companies in West Bengal. Thus with better employment opportunities, people now have greater disposable income. But since, the estimates of actual income cannot be traced; the conventional method of tracing the income through consumer expenditure is followed. The consumer expenditure incurred on various items by a household is by convention considered as a proxy of income, although there is a chance of under-reporting but it minimizes the chance of over-reporting as in case of income which people intend to.

The alluring growth story as reported by several public and private agencies is limited to the urban middle and upper class which forms just nearly one fifth of the total population. But what is the condition of the majority of the population who are not regular salaried employees in organized sector? Nearly 50 per cent of the population is self-employed in non-agricultural activities. These people earn their living mostly by involving themselves as grocers, hawkers, street vendors and in various small scale household businesses. So an intervention is needed to trace the consumption pattern of the population of West Bengal which is densely populated and diverse in consumption cultures.

The inequality in consumption is the outcome of several factors determining income of the consumers like occupation, educational background, family structure, gender bias in household management and various other factors. Poverty and inequality are thus intertwined being the cause and effect of each other. The estimates of poverty as given by various researchers and apex institutions are very much in controversy on account of the varied methodologies adopted for estimating.

The measurement and methodological aspects of measuring poverty and inequality have not been dealt in this study but the standard and most accepted benchmark for identifying the poor as per the Tendulkar Committee (2009) recommendations has been adopted following the recent updated poverty line declared by the Government in March, 2012.

The consumption pattern of a population is diverse and changing with changing lifestyle associated with altering occupation. Agriculture, which is still supposed to be the major activity in rural West Bengal, has experienced a drop in persons engaged in the activity. These people who have dropped from agricultural activities have either moved to the urban fringes or have engaged themselves in non-agricultural activities. The seasonality in agriculture, dependent on monsoons does not assure a positive return to the farmers every year. The cost of seeds, fertilizers and required equipments has gone up drastically which has forced most of the marginal farmers to move out for an assured income. Thus with rapid urbanization, rural-urban migration, changing occupation structures, the urban proliferation of super market chains have been taking place. In urban areas and even to some extent in rural areas, increase in double-income families have been observed in the past decade. Thus, longer working hours, associated with greater need for leisure has resulted in increased demand for processed and ready to eat food items and certain other equipments and accessories that save time and energy. Hence, the increased demand among the consumers has attracted foreign investments in retail sector in India. The NSSO in its schedule has incorporated the item heads for processed food for the first time in 2011-12 due to its growing share in total food expenditure.

B. Objective of the Study

The present exercise attempts to address broadly three issues relating to consumption. The study seeks to analyze the allocation pattern and distribution of consumption expenditures on various items of household consumption across monthly household consumption expenditure (MHCE) deciles in both rural and urban West Bengal across various districts and regions for the years 2009-10 and 2011-12. The study seeks to measure the performance of the districts over the past two consumption expenditure rounds following the method of constructing the sub-indices as followed while the Human Development Index is calculated.

C. Data and Research Method

The present study is based on the NSS unit level data for West Bengal on household consumer expenditure for the years 2009-10 and 2011-12. The National Sample Survey Organization (NSSO), Ministry of Statistics and Programme Implementation released the key indicators of household consumer expenditure in India based on data collected in its 66th round survey during July 2009-June 2010 in July 2011 and the 68th round report was released in July 2013. NSS surveys on consumer expenditure are conducted quinquennially (every 5th year) with the last quinquennial survey conducted in NSS 61st round (July 2004 - June 2005). Following the UNDP method of measuring Human Development Index, district wise and region wise development indices have been constructed separately for the past two consecutive rounds for the state of West Bengal. The indices hence constructed are with respect to the monthly household consumption expenditure (mixed recall period) taken as a proxy of income, food expenditure, education expenditure, health expenditure and non food expenditure taken at the median level (representing 50 per cent of the population) for each district. So, first, the district (region) wise median expenditure on each of the above mentioned heads have been tabulated. The maximum and minimum median expenditure for each item of expenditures are identified. Then following the method of measuring development index, as given below,

$$\text{DI} = (actual\ value - minimum\ value)/(maximum\ value - minimum\ value)$$

For example, if we want to estimate the intra-district household profile, in terms of total expenditure, given the unit level data for each household on total monthly consumption expenditure (MHCE); we first take out the median of total monthly consumption expenditure for each district. The maximum and minimum among those median values for all the districts is also identified. Then the Development Index in terms of MHCE for each district, say, *district* (1) is calculated as follows:

$$\text{DI} = \frac{median\ MHCE\ for\ district\ (1) - minimum\ median\ MHCE\ among\ all\ districts}{maximum\ median\ MHCE\ across\ all\ districts - minimum\ median\ MHCE\ across\ all\ districts}$$

Thus, repeating this for 19 districts of West Bengal for the two years viz.2009-10 and 2011-12, we have made a comparative assessment on the performance of the districts in terms of the respective indices of development. Therefore, across all the 19 districts we have two extreme values of the index as zero, representing the worst performance with highest inequality i.e. when actual value equals to the minimum value, making actual value minus minimum value to be zero and the other extreme case being when actual value equals to maximum value making the development index to be equal to one.

Thus we proceed by ranking these development indices for each district over years. The change in rank represents the improvement or deterioration with respect to the particular indicator in question. Another thing has to be kept in mind while we rank these indices, that, if the development index (with respect to total MHCE, income, expenses incurred on education etc.) as calculated is close to zero, then the economy's performance is very bad whereas if the development index has value equal to zero with respect to child mortality, then we can say that the economy's performance is very good. Hence the type of the indicator chosen has to be kept in mind i.e. whether more is better or worse.

II. EMPIRICAL RESULTS AND DISCUSSION

The development indices constructed for each of the districts of West Bengal show that Kolkata among all performs the best with the highest median expenditure on food items, non food items, education, and on health as well. The ranking has been done for the first four indicators in ascending order while for medical expenses incurred; the ranks have been given in descending order of indices. In case of medical expenses, the districts have been ranked in descending order of the development indices. Hence a lower value of the development index implies poor performance and a higher rank is given. The less the expenses are incurred on health services; the better is the state of development. On the contrary, the less the expenses on education, the lower is the prospective state of development. The change in the ranks over the years shows the performance of the indicators.

The districts of Kolkata, Haora, North 24 Parganas, Darjiling are the four best performing districts in terms of total monthly household expenses, food expenditure, non food expenditure being pretty high compared to other districts. In 2012, the poorly performing districts are Bardhaman, Birbhum, Murshidabad, South 24 Parganas whose indices have gone down than their previous year. The districts like Jalpaiguri, Uttar Dinajpur, Dakshin Dinajpur, Hugli have outperformed their indices in 20011-12 than their 2009-10 counter parts. Murshidabad, Bardhaman, Birbhum, Paschim Midnapur have experienced a deterioration in their ranks with respect to the indices. Hugli and Murshidabad were found to incur lowest medical expenses among its counterparts.

Table 2: Change in ranks of the districts of West Bengal in terms of the development indices

	MHCE		FOOD_EXP		NFOOD_EXP		EDU_EXP		MEDICAL_EXP*	
distrcts	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012
Darjiling	4	2	7	4	3	2	2	9	17	4
Jalpaiguri	9	5	10	9	6	5	5	14	15	9
Koch Bihar	15	15	13	13	12	18	9	17	16	12
Uttar Dinajpur	11	6	9	2	17	7	17	19	7	3
Dakshin Dinajpur	17	13	18	10	15	10	14	6	10	5
Maldah	12	9	11	6	16	12	11	13	5	1
Murshidabad	10	19	12	17	10	17	10	18	12	18
Birbhum	14	18	14	19	13	13	13	16	14	15
Barddhaman	7	11	6	12	7	8	7	12	6	16
Nadia	16	16	16	14	14	19	8	15	11	11
North 24 Parganas	2	4	3	5	2	4	4	2	1	6
Hugli	13	10	15	15	11	6	16	4	13	18
Bankura	18	14	17	16	18	15	18	11	19	10
Puruliya	19	17	19	18	19	16	19	5	18	17
Pashim Midnapur	6	12	8	11	8	11	6	3	8	13
Haora	3	3	2	3	4	3	3	8	9	8
Kolkata	1	1	1	1	1	1	1	1	1	6
South 24 Parganas	5	7	4	8	5	14	12	10	4	13
Purba Midnapur	8	8	5	7	9	9	15	6	3	1

Source*: Calculations based on NSS unit level data, 2011-12*

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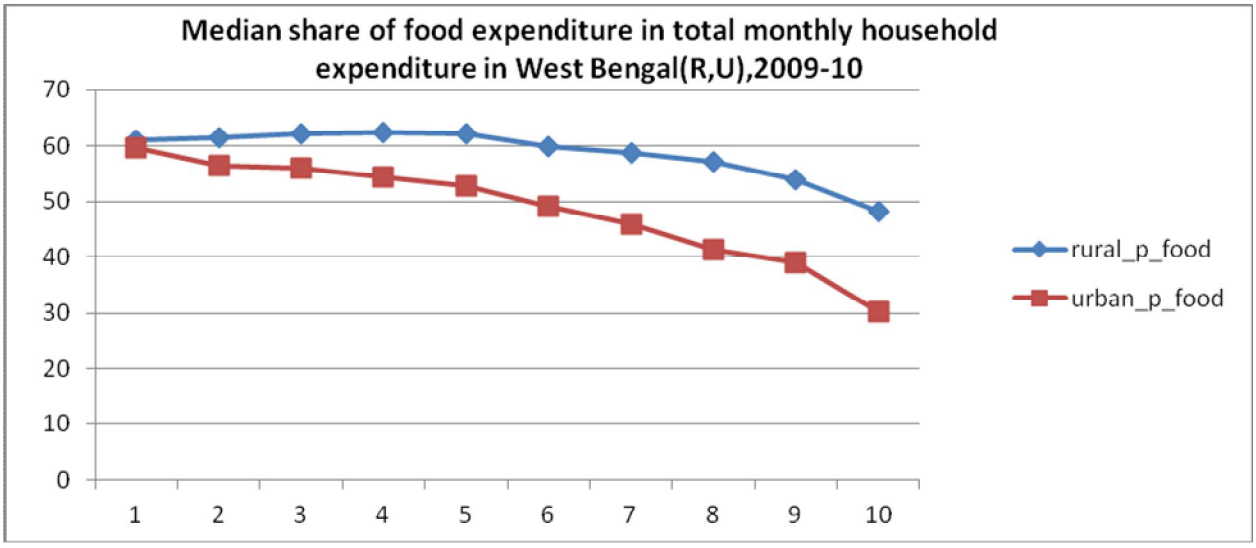
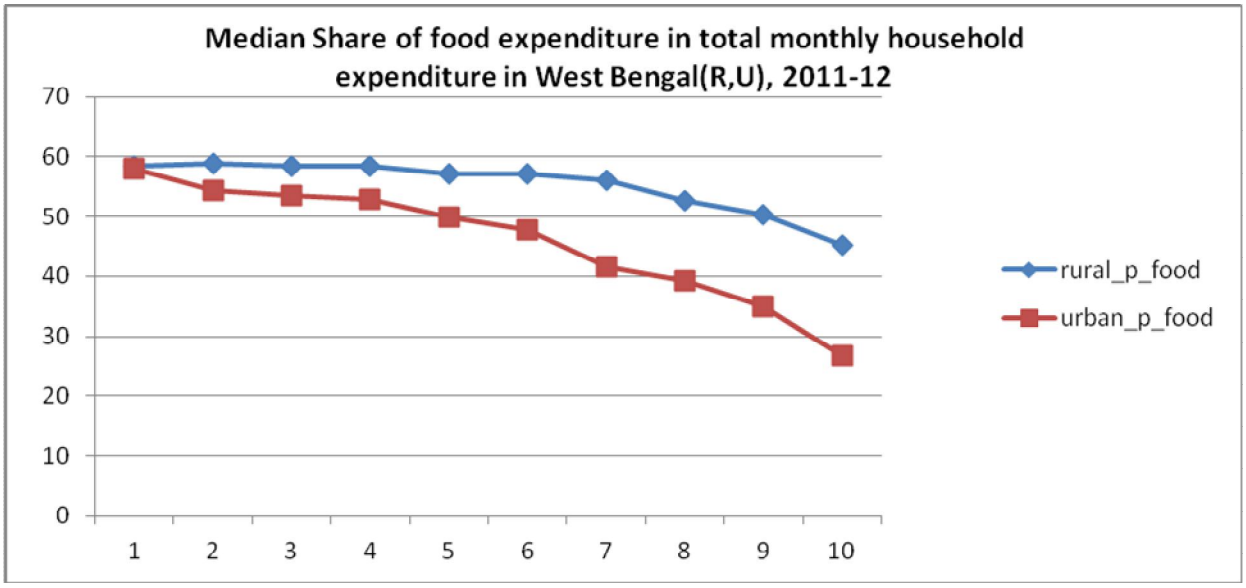
The validity of Engel's law is tested in the next section where we find that the law is strictly valid in both rural and urban areas of West Bengal in both the rounds viz. Round 66th and Round 68th. The rural- urban differences in expenditure proportion on food increases as we move up along the expenditure deciles in both the rounds 2009-10 and 2011-12. A noticeable trend has been observed in the recent round. Over a span of less than two years, the median share of food expenditure in rural West Bengal has gone down below 60 per cent across the lower income deciles for the first time. In both the lowest and top deciles, the trend of lowering the proportion expenses on food has been observed and the rural urban gap in proportional expenses incurred on food goes up as we move up along the expenditure deciles.

Figure 1: Validating Engel's Law in West Bengal (R,U), 2009-10



Source:*NSS Unit level Data, 2009-10*

Figure 2: Validating Engel's Law in West Bengal (R,U), 2011-12



Source:*NSS Unit level Data, 2011-12*

Note: The actual expenditure ranges for each expenditure decile are not equal for rural and urban West Bengal although for the ease of comparability, the same decile axis has been used.

In the next section we test the variation in food and non-food expenditure over the two rounds. For testing, homogeneity of mean, we have performed the mean test given by paired t-test and the variance ratio test. The results have been tabulated in the following table.

H_0: mean (difference of food exp_2011-12 and food exp_2009-10) = 0

H_a: mean (difference) != 0

Table 3: Test of Homogeneity of mean for food and non food expenditures in West Bengal

Test of Homogeneity of mean					
	Observations	Mean	Std.Error	Std.Deviation	
food_2011-12	19	2221.053	49.38	215.26	
food_2009-10	19	2841	85.89	374.4	t value= -10.58
difference		-619.947	58.54	255.17	
nonfood_2011-12	19	1774.316	96.86	422.2	
nonfood_2009-10	19	2532.68	190.29	829.46	t value=-7.02
difference		-758.36	107.95	470.57	

From the test of homogeneity of mean, we find that in 2011-12, there has been a decline in the mean food and non food expenditure than in the previous round. It has to be noted that the observations taken for each district are the median food and non food expenditures for each district. The t value comes out to be -10.58 for food expenditure and -7.02 for non food expenditures.

The hypothesis for variance test is given by **H_0**: ratio= 1 and **H_a**: ratio!=1

Table 4: Variance ratio test for food and non food expenditures in West Bengal

Variance ratio test						
Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
food2011	19	2221.053	49.38625	215.2697	2117.296	2324.809
food2009	19	2841	85.89473	374.4065	2660.542	3021.458
combined	38	2531.026	70.60278	435.2248	2387.971	2674.081
ratio = sd(food2011) / sd(food2009)					f =	0.3306
Ho: ratio = 1		degrees of freedom =	18, 18			
Ha: ratio < 1		Ha: ratio != 1		Ha: ratio > 1		
Pr(F < f) = 0.0119		2*Pr(F < f) = 0.0237		Pr(F > f) = 0.9881		
Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
Non-food2011	19	1774.316	96.86048	422.2051	1570.819	1977.812
Non-food2009	19	2532.684	190.2933	829.4694	2132.893	2932.476
combined	38	2153.5	122.3776	754.3861	1905.539	2401.461
ratio = sd(non-food2011) / sd(non-food2009)					**f =**	**0.2591**
Ho: ratio = 1		degrees of freedom =	18, 18			
Ha: ratio < 1		Ha: ratio != 1		Ha: ratio > 1		
Pr(F < f) = 0.0032		2*Pr(F < f) = 0.0063		Pr(F > f) = 0.9968		

Thus from the tables above table it is clear that the extent of inequality within districts has come down.

Table 5: Poverty Head Count Ratio for West Bengal (2009-10)

World Bank Method of Estimating of Poverty: Estimates for West Bengal				
Poverty Line $ per day per person	1	1.25	1.5	2
PPP used (2005 PPP)	Consumption PPP			
PPP Rate (Rs/$) (2011)	19.53	19.53	19.53	19.53
Poverty Line All India (Rs.)	19.53	24.41	29.29	39.06
Head Count Ratio Rural WB 2009-10 (%)	13.36	30.25	47.67	73.09
Head Count Ratio Urban WB 2009-10 (%)	7.27	14.94	22.98	36.36
Head Count Ratio All WB 2009-10 (%)	10.71	23.59	36.93	57.12

Source: Revised estimates following Chen and Ravallion (2008), updated for the year 2010 and PovCalNet of World Bank

The World Bank Poverty estimate for West Bengal for the latest year available (2009.5) using the monthly poverty line in 2005 PPP$ of 38$ is 34.13 per cent for rural WB and 29.01 per cent for Urban WB. The Planning Commission of India has been facing major challenges in defining the poverty line for an accurate estimate of poverty. It has been defining the poverty line and frequently changing it after controversies. Thus, the convenient way is to follow the International poverty line as defined by the World Bank and adjusted with India's cost of living by adjustments at purchasing power parity. The entire exercise has been done following Himanshu's (2009) poverty sensitivity analysis following Chen and Ravallion (2008). The poverty line as given by the World Bank corresponds to the urban prices and the same has been considered for measuring rural poverty as well. This is a limitation. Keeping in view the recent debates, if the 1.5 $ equivalent poverty line is considered for West Bengal adjusted at PPP, nearly half of the rural population of West Bengal would report living below the poverty line which is alarmingly high (Table 5).

Table 6: Poverty Head Count Ratio for West Bengal (2009-10) based on Planning Commission (2012)

Poverty Head Count Ratio according to Planning Commission's (2012) poverty line		
	HCR (%)	Poverty Line (Rs.)/day
Rural WB	18.95	21.44
Urban WB	20.58	27.68

Source: NSS Unit Level Data, 2009-10 and Planning Commission note published on 19th March 2012

The officially accepted although controversial benchmark for demarcating poverty in India is given by the Planning Commission. Thus the reference poverty line for rural and urban India has been taken into consideration in the following section for calculating poverty head count ratio across various social and occupational groups of West Bengal for the year 2009-10. In the following section, the poverty head count ratio is estimated with the more recent updated poverty line which takes into account the expenses incurred on certain basic non-food items of essential use like expenses on clothing, electricity etc.

Table 7: Poverty Head Count Ratio for West Bengal (2011-12) based on Planning Commission (2013)

Poverty Head Count Ratio according to Planning Commission's (revise) poverty line		
	HCR (%)	Poverty Line (Rs.)/day
Rural WB	17.6	27.5
Urban WB	15.58	33.33

Source: NSS Unit Level Data, 2011-12 and Press Note by Planning Commission, July 2013

The Planning Commission of India after several criticisms of setting the poverty line too low has set up the Rangarajan Committee for estimating the extent of poverty and revising the poverty line. The committee is set to submit its report by mid 2014. The recent press release by the Planning commission in July 2013 mentions the poverty line for West Bengal revised for the year 2011-12. Even with a raised poverty line, the poverty head count ratio is found to have declined in both rural and urban West Bengal which confirms that there has been a real decline of the number of people living below the poverty line in both rural and urban West Bengal. As found earlier, the severity of urban poverty in West Bengal is more.

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A. Implications Of Education Expenditure Pattern

The expenses incurred on education maintained a constant share of about 13 per cent of the total non-food expenditure across all urban decile. But in rural West Bengal, the share of education expenses across MPCE deciles keeps on increasing with rising income. The lion's share in the education expenses in both rural and urban West Bengal is accrued towards payments for private tutors. Schools in rural areas are generally Government owned or sponsored. Even in urban areas, only the affluent and upper middle class of the consumers can afford to send their children to private schools that charge very high tuition fees. Yet, these children as well take tuitions as it has now become a trend to keep private tutors (see Appendix A1R, A1U).

B. Implications of health Expenditure Pattern

Institutional medical expenses were found significantly higher in the top urban decile (23 per cent) which was almost double in proportion than the lowest urban decile (12 per cent). The lowest rural decile was found to spend 18 per cent of its total non-food expense on institutional medical whereas the top rural decile spent 14 per cent on it. Non-institutional medical expenses hold a constant share of about 11 per cent of the total non-food expenditure across all deciles in both rural and urban WB. In both institutional and non-institutional medical expenses, across both urban and rural West Bengal, the expenses towards diagnostics, treatment and hospital charges constitute the major quantum of medical expenses besides medicines (see Appendix A2R, A2U).

III. DISCUSSION AND CONCLUSION

The state of West Bengal has undergone a transformation in consumption habit in recent times. Although the share of food basket in total consumption expenditure remains nearly constant at higher levels of expenditure, the expenditure incurred at discretion has gone up which does not have a distinct share in consumption basket.

From the estimates of poverty head count ratio, and the development indices with respect to various important items of expenditure, it is evident that the state of West Bengal (at both rural and urban level) as a whole has improved in terms of reduced poverty head count ratio.

But at the district level, certain backward districts like Malda, Uttar Dinajpur, Dakshin Dinajpur, Jalpaiguri have improved in terms of increased consumption expenditures than their counterparts in 2011-12 than they were in 2009-10. On the other hand certain economically prospering districts like Burdwan, Birbhum, Paschim Midnapur have gone down in their ranking with respect to the development index with respect to total consumption expenditure.

This change in trend may be due to improvement in the indices of certain other backward districts keeping their actual expenditures at the same level as in the previous NSS round (Round 66th).

The story is similar in food, and education expenditure. The district of Kolkata, Haora, South 24 Parganas and Darjeeling has been performing well consistently in terms of increased expenditure than their counterparts in the respective years of reference.

But certain districts like Uttar Dinajpur may also be there, where the costs incurred on education and food are exceptionally high nearing to the maximum among the districts of West Bengal. This may be due to unavailability of resources or poor quality of resources for which people have to pay higher prices. The cost of education records nearly equal to what an average person in a urban metropolitan incurs. This implies that people have realized the importance of education and hence are spending in availing it. The other reason may be that the quality of education that government schools providing is so poor, that parents have to send their children to private tuitions, or it may be that the parents themselves are not literate enough to teach their children at home, and hence send children to tuitions despite the school delivering quality education.

For food items also, this may be the case. The increased expenditure on food items which are bare necessary may not always imply economic well being. Inflation is one major problem in the current period. There has been an expenditure switchover from food items to non food items and the shift has been more prominent in the 68th round. Even the population living at the lower deciles of expenditure in both rural and urban is incurring high expenses on packaged and processed food due to changing work structure and changing lifestyles.

Thus from the above discussion it can be concluded that West Bengal has improved in terms of increased expenses in essential items. The population feeds itself enough to switchover from food items to certain non food items and expenses incurred on medical services are low in certain so called "backward districts" which implies that either the incidence of health problems have decreased in these districts or the quality of free medical services provided by the Government has improved so that people don't need to make huge expenses towards private or non-institutional medical services.

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Appendix -I

In this segment the regression results has been shown and interpreted. The effect of total income on food expenditure has been estimated and both has been found to be highly correlated with each other.

Table 8: Effect of total income on food expenditure in West Bengal

Sample: 2009-2010 and 2011-12				
Periods included: 2				
Cross-sections included: 19				
Total panel (balanced) observations: 38				
FOOD_EXP=C(1)+C(2)*LOG_MHCE				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-13122.910	892.544	-14.703	0.000
C(2)	1854.447	105.700	17.544	0.000
FOOD_EXP=-13122.91+1854.44*LOG(MHCE)				
R-squared	0.895	Mean dependent var		2531.026
Adjusted R-squared	0.892	S.D. dependent var		435.225
Log likelihood	-241.421	Hannan-Quinn criter.		12.842
F-statistic	307.809	Durbin-Watson stat		1.328

From the regression analysis, we find that log(mhce) explains 89 per cent of the total variation in food expenditure in West Bengal which is very obvious. The log of monthly household consumption expenditure has been taken to lower the effects of variation in the total household expenditure. Total expenditure has been taken as a proxy of total income.

Table 9: Impact of household income in the proportion expenses incurred on food items

Sample: 2010 2011		Periods included: 2		
Cross-sections included: 19				
Total panel (balanced) observations: 38				
PROP_FOOD=C(1)+C(2)*LOG_MHCE				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	164.50	18.63478	8.828	0
C(2)	-13.09	2.206829	-5.93434	0
R-squared	0.4944	Mean dependent var		53.96
Adjusted R-squared	0.4804	S.D. dependent var		4.13
F-statistic	35.216	Durbin-Watson stat		0.973

Table 9: Impact of household income in the proportion expenses incurred on nonfood items

Sample: 2009-10 and 2011-12 Periods included: 2
Cross-sections included: 19
Total panel (balanced) observations: 38
PROP_FOOD=C(1)+C(2)*LOG_MHCE

	Coefficient	Std. Error	t-Statistic	Prob.
LOG(MHCE)	13.09607	2.206829	5.934338	0
C	-64.5097	18.63478	-3.46179	0.0014
R-squared	0.494498	Mean dependent var		46.03816
Adjusted R-squared	0.480456	S.D. dependent var		4.135613
F-statistic	35.21636	Durbin-Watson stat		0.973203

A1R: Rural WB: Mean monthly education expenditure across deciles, 2009-10 (Rs.)

Rural Expenditure decile	books, journals: first hand	books, journals, etc.: second hand	newspapers, periodicals	library charges	stationery, photocopying charges	Tuition and other fees (school, college, etc.)	private tutor/ coaching centre	educational CD	other educational expenses	Education (combined)
1	35	.	12	.	15.16	85.00	85.32	.	100.00	80.02
2	139.38	256.67	68	.	21.36	48.71	103.49	.	18.13	108.07
3	46.86	120	21	.	24.15	38.71	110.36	.	18.30	95.33
4	164.44	140	35.50	50	31.77	59.30	117.64	.	25.93	125.96
5	102.37	93.33	18.57	.	30.28	97.17	141.18	.	33.13	151.80
6	182.11	103.33	42	50	32.68	172.68	177.09	.	35.58	204.19
7	156.60	138	53.88	.	41.18	130.20	203.56	.	47.07	240.29
8	169.43	58.33	70.16	.	47.13	140.47	219.10	.	33.59	263.85
9	230.52	81.25	70.81	.	51.89	153.78	310.35	200	57.62	377.23
10	313.48	63.60	86.28	35	71.38	373.74	495.96	40	78.53	616.72
All	199.23	109.95	71.86	39.29	41.71	188.12	239.20	93.33	47.65	275.18

Source: Tabulated from NSS Unit Level data on consumer expenditure, Round 66th, 2009-10, WB

A1U: Urban WB: Mean monthly education expenditure across deciles, 2009-10 (Rs.)

Urban Decile	books, journals: first hand	books, journals, etc.: second hand	newspapers, periodicals	library charges	stationery, photocopying	tuition and other fees (school, college, etc.)	private tutor/ coaching centre	educational CD	other educational expenses	Education (combined)
1	37.50	48.33	42.33	2.00	27.03	84.05	173.59	.	24.09	140.53
2	138.07	.	34.82	12.00	31.27	108.41	196.86	.	33.82	204.47
3	50.43	45.00	69.50	14.25	38.88	153.82	259.53	.	48.58	265.38
4	193.61	60.00	72.63	50.00	50.55	137.60	290.60	.	46.45	325.25
5	192.00	.	77.25	50.00	51.18	236.14	350.73	.	68.33	400.00
6	183.62	.	78.68	58.33	59.68	332.07	547.30	.	95.81	595.67
7	397.00	73.75	92.61	8.33	55.12	326.33	555.73	.	68.88	663.57
8	261.68	358.40	92.32	21.67	60.71	480.28	643.78	50.00	58.33	745.00
9	214.60	67.50	110.56	16.25	77.46	610.99	911.94	360.00	121.80	891.20
10	411.53	174.50	119.26	18.00	93.59	1453.80	1244.95	56.67	304.27	1203.40
All	259.18	155.61	98.20	22.73	55.64	493.29	511.70	185.71	107.06	597.75

Source: Tabulated from NSS Unit Level data on consumer expenditure, Round 66th, 2009-10, WB

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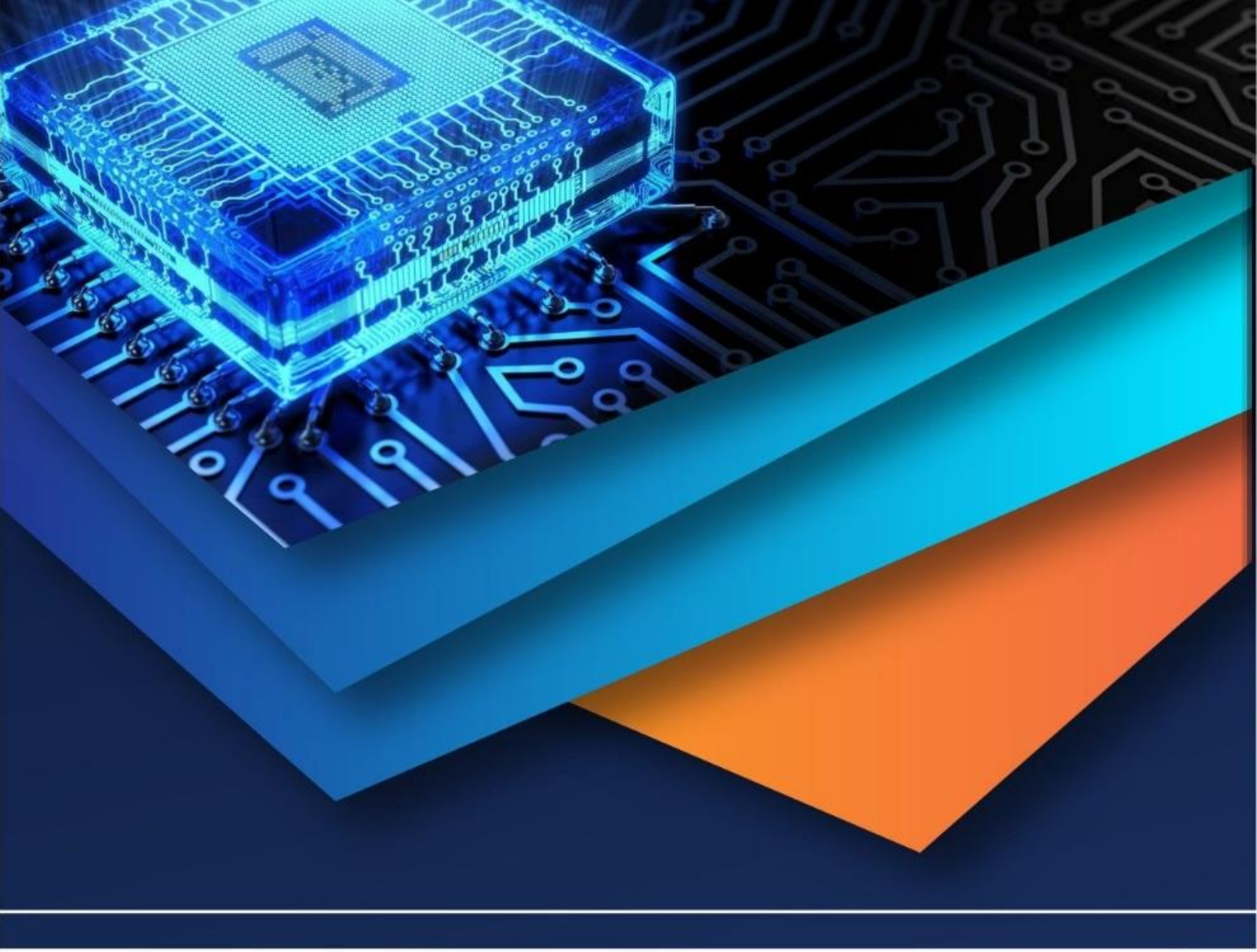
A2R: Median Distribution of total institutional and non-institutional medical expenses in rural WB, 2009-10 (Rs.)

Rural decile	medicine	X-ray, ECG	Doctor's free	Hospital/nursinghome charges	other medical expenses	institutional medical	medicine	X-ray,ECG,Pathological test	Doctor's fee	Family planning appliances	other medical expenses	non-institutional medical
1	300	320	200	600	108	595	40	100	30	20	27.5	45
2	445	200	100	230	160	845	50	60	40	15.5	19	50
3	500	350	200	400	60	600	70	55	50	10	30	80
4	450	240	155	500	150	600	60	84	50	9	30	75
5	400	365	100	218	175	900	80	150	50	11	55	100
6	400	375	200	300	200	725	100	90	60	20	50	120
7	700	500	300	1200	275	1250	100	150	50	20	35	140
8	700	400	200	1200	200	1500	128	140	70	20	50	150
9	1500	800	550	2000	500	4475	150	145	72.5	30	100	200
10	2000	1000	1000	2000	500	5400	253	220	100	34	50	350

A2U: Median Distribution of total institutional and non-institutional medical expenses in urban WB, 2009-10 (Rs.)

Urban decile	medicine	X-ray, ECG	Doctor's free	Hospital/nursinghome charges	other medical expenses	institutional medical	medicine	X-ray,ECG, Pathological test	Doctor's fee	Family planning appliances	other medical expenses	non-institutional medical
1	650	300	300	450	200	1074	50	200	50	14	30	60
2	682.5	400	300	700	750	1825	70	100	50	15	35	78
3	1000	500	575	500	200	1500	115	155	60	12	22.5	150
4	1200	775	500	1500	340	3450	125	135	65	17.5	40	160
5	1000	700	450	1550	500	3420	130	300	100	15	42.5	160
6	1500	750	700	2300	500	4175	150	145	100	20	32.5	200
7	3000	1200	875	1750	300	6900	200	200	100	20	40	250
8	1500	1000	1200	3000	750	6150	200	200	100	38	100	300
9	1900	2000	2000	3500	780	9250	300	300	150	32	100	365
10	4500	5000	5000	21250	1000	30000	463	500	200	50	100	650

Note: The item components are non-additive, they are the median figures



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