**Determinants of Household Consumption Expenditure of Beedi Workers**

**ABSTRACT**

This study examines consumption patterns and the key factors influencing consumption expenditure of beedi worker households in the Murshidabad district of West Bengal. The study surveyed 50 households of beedi workers by using a simple random sampling method. Data collection was done through a pretested questionnaire. Descriptive analysis, including means and standard deviations, was employed to summarize demographic and economic data, while multiple linear regression was used to identify factors affecting consumption. The results show that family size and disposable income significantly increase household consumption, while savings reduce it. Age and education levels of household heads do not significantly impact expenditure. Household spending is predominantly allocated to food and healthcare, which together constitute over 70 percent of the total expenditure. The regression model explains 65.7 percent of the variance in household consumption, with disposable income, saving and family size being the primary drivers.

**Keywords**: Consumption, Beedi workers, Multiple regression model, Income and Saving.

**INTRODUCTION**

Household consumption patterns reflect how income is allocated among goods and services and are essential for understanding economic behavior and social welfare. These patterns are shaped by multiple factors including income levels, prices, cultural preferences, and demographic characteristics such as age, household size, and education (Deaton, 1992; Varian, 2014). Income remains a central determinant, as emphasized by Keynes's Absolute Income Hypothesis, which states that consumption rises with disposable income, though not proportionately (Keynes, 1936; Wahid, 2000; Alimi, 2013; Sadik-zada & Loewenstein, 2018). Price is another key factor—rising prices for essentials often lead households to cut back on non-essentials or switch to cheaper alternatives, reflecting price elasticity of demand (Haq et al., 2011; Mankiw, 2011). Macroeconomic factors such as inflation, government spending, and interest rates also influence consumption decisions, while variables like population size and education levels affect sector-specific spending like healthcare (Varlamova & Larionova, 2015). Moreover, demographic and cultural elements play a significant role—households with higher education levels, for instance, tend to have healthier consumption habits, such as increased intake of fruits and vegetables (Mancino et al., 2004). Thus, understanding these interlinked determinants offers vital insights for economic planning and policy-making.

**Literature review**

Macroeconomic theory regards aggregate consumer spending as a vital component of overall demand. Foundational theories include Keynes’s absolute income hypothesis (1936), which posits that consumption is primarily driven by current income with a marginal propensity to consume less than one, and largely unaffected by interest rates (Jhingan, 2002). Fisher (1930), from a neoclassical viewpoint, introduced the role of future income expectations and interest rates. Duesenberry (1949) emphasized the influence of past consumption and relative income comparisons. Friedman’s permanent income hypothesis (1957) shifted focus to long-term income expectations, while Ando and Modigliani’s life-cycle hypothesis (1963) proposed that individuals plan consumption over their lifetime based on expected earnings. Contemporary studies build on these models. Elias, Beshir, and Mehare (2022) highlight how evolving family structures and income sources reshape spending patterns, while Varlamova and Larionova (2015) underline the importance of inflation, education, and disposable income. These contributions collectively enrich classical theories with modern socio-economic perspectives.

Household consumption expenditure is a vital indicator of living standards and economic well-being, influenced by a wide range of socio-economic and macroeconomic factors. In India, analysis using NSSO data highlights the influence of age, caste, education, occupation, and region on consumption, showing that households belonging to lower castes or engaged in casual or agricultural labor are most vulnerable (Roy & Kundu, 2022). Targeted poverty alleviation policies that consider these determinants and apply stochastic dominance techniques are recommended to ensure more equitable welfare outcomes. Educational expenses are a significant component of household spending, especially in states like Karnataka, where parental education, income, occupation, and institutional type substantially drive expenditure (Jayalakshmi & Indira, 2023). Similarly, cross-country studies across OECD nations confirm that disposable income, inflation, taxation, imports, and education critically shape household spending trends. The 2008 global financial crisis was particularly impactful, leading to sharp changes in consumption patterns across regions (Varlamova & Larionova, 2015). In the Asian context, household consumption has been linked closely to macroeconomic variables such as income, government spending, interest rates, and population growth. Fiscal policy interventions appear more effective than monetary tools in stimulating consumption-led growth (Arapova, 2018). Studies in developing countries like Ethiopia and South Africa further reveal that location, household size, employment, and credit access significantly affect spending behavior (Nigussie et al., 2022; Sekhampu & Niyimbanira, 2013). Moreover, in Azerbaijan, taxes like VAT and exchange rates play a stronger role than income tax or even disposable income in determining household consumption (Zeynalova & Mammadli, 2020). Meanwhile, in Indonesia, secondary income sources such as side jobs have been found to be significant predictors of consumption rates, underscoring the role of informal income in financial decision-making (Fadillah, 2023). These diverse findings underscore the importance of tailoring policy interventions to both macroeconomic conditions and household-level realities.

Understanding household consumption behavior has become increasingly complex as researchers now integrate both macroeconomic indicators and micro-level household factors. Recent studies from developing countries have explored how variables such as income, inflation, education, and financial access influence consumption patterns (Akekere & Yousuo, 2010; Ofwona, 2013; Deaton, 1992; Muellbauer, 1994; Attanasio, 1998; Carroll, 2001; Byrne & Davis, 2003; Bover, 2005). For instance, Li, Wu, and Xiao (2020) found that digital financial inclusion positively affects consumption in Brazil. Similarly, Agarwal and Mannil (2023) observed how COVID-19 led to a shift in spending between essential and non-essential goods in South Korea.Beyond macroeconomic variables, researchers increasingly emphasize demographic and behavioral factors such as the age, gender, and education level of the household head; household size; number of earning members; occupation; savings behavior; and residential location. These, combined with economic indicators, offer a holistic understanding of household consumption. Enbeyle et al. (2020) point out that consumption includes not only basic needs but also durables and even art. Studies by Rusdiana et al. (2020) and Aziz et al. (2019) reveal that family structure and governance significantly influence consumption priorities. Sun et al. (2022) emphasize that women as financial decision-makers strongly shape consumption behavior in Asia. Panakaje et al. (2023) found that financial literacy boosts health and education spending in rural India. While Kai and Papa (2010) showed income’s strong effect on China’s consumption, inflation had little impact. In contrast, Wadad (2011) found long-run relationships between income, interest rates, inflation, and wealth in Lebanon. African studies align, showing GDP growth as a key driver (Akekere & Yousuo, 2012; Ofwona, 2013; Mishra, 2011). Other global research highlights inflation expectations, real interest rates, and foreign exchange as determinants (Tellis & Ackerman, 2001; Doepke & Schneider, 2006; Mian et al., 2013; Aruoba & Schorfheide, 2011).

The primary objective of this research is to evaluate household consumption patterns within the selected study area, offering insights into how families allocate their resources across various needs. Additionally, the study aims to identify and analyze the key economic, social, and demographic factors that influence household consumption expenditure. Together, these objectives will help in understanding the dynamics of consumption behavior and inform targeted policy interventions.

**Research Methodology**

**Study Area**

 The study area for this research is the Murshidabad District of West Bengal. The entire area is mostly populated by the Minorities, many of whom live in poverty, have little access to education, and rely on physical work for a living. For this research, the Jangipur sub-division was chosen purposively. The Suti-II block has been chosen purposively for this study because a significant portion of its population works in the beedi sector. Most of the female beedi laborers are from Minority communities. For this study, a cluster of two villages from Block Suti-II is purposefully selected.

**Sample design and size:**

A complete list of beedi workers’ households for the two villages is prepared separately.For each village, 50 sample households are randomly selected with the help of the Simple Random Sampling Without Replacement Method (SRSWOR). This way, 100 sample respondents have been randomly selected for the research study.

**Data collection:**

First, a questionnaire schedule is prepared by the pilot survey. The primary data has been collected using a pretested schedule in the study area.

**Descriptive Analysis**

Descriptive statistical techniques, such as mean, median, standard deviation, and percentages, have been used to summarize the data collected from sample households.

**Econometric Analysis**

A multiple linear regression model (MLR) is widely applied to identify the socio-economic and demographic factors affecting household consumption expenditure (Sekhampuand Niyimbanira, 2013; Hone and Marisennayya, 2019, Sultana *et al*., 2024). The model is specified as follows:

Ci​=β0​+β1​Ydi​+β2​Agei​+β3​Ni​+β4​Educi​+β5​Si​+ ​ui​

Where:

* Ci = Total household consumption expenditure per month (in Rupee) for household *i*, i=1, 2, ………,50
* Ydi​ = Monthly household income
* Agei = Age of household head
* Ni = family size
* Educi​ = Education level of household head
* Si​ = Household saving status
* ui​ = Error term
* β0​ = Constant or autonomous consumption
* β1,β2,…,β5= Coefficients of the explanatory variables

**Table 1. Descriptions of Variables**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Type** | **Description** |
| **Dependent Variable**  1. Household Consumption Expenditure **(**HCE) | Continuous | HCE is calculated by summing the household's reported spending on both food and non-food items. Here Total monthly consumption is calculated by summing expenditures across 7 categories: Education, food, healthcare, clothing, Fuel, electricity expense and other miscellaneous expenses. |
| **Independent Variables**  1. Household Income  2. Family Size  3. Education Level  4. Age  5. Saving Status | Continuous  Continuous  Dummy  Continuous  Dummy | The net income available to the household after taxes, is obtained from various income sources.  The total household members in number  If Household head, Illiterate = 0, Primary = 1  Secondary pass =2, Higher Secondary pass =3.  The age of household head in years.  Whether the household is saving (yes=1, no=0). |

**RESULTS AND DISCUSSION**

**Demographic Characteristics of the Respondents**

Table 2 illustrates that the average age of the respondents is 43.20. The average member of the household is 4.7. The result reveals that the lowest monthly income is Rs.8000 and the highest is Rs. 18500. The monthly average income of households is Rs. 11540.

**Table 2: Descriptive Statistics of the Respondents**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Statistics** | **N** | **Minimum** | **Maximum** | **Mean** | **Std. Deviation** |
| Age | 50 | 30 | 60 | 43.20 | 8.538 |
| FamilySize | 50 | 3 | 6 | 4.68 | .868 |
| Education | 50 | 0 | 3 | .66 | .798 |
| Income | 50 | 8000 | 18500 | 11540.00 | 2118.529 |

**Total monthly consumption expenditure of households**

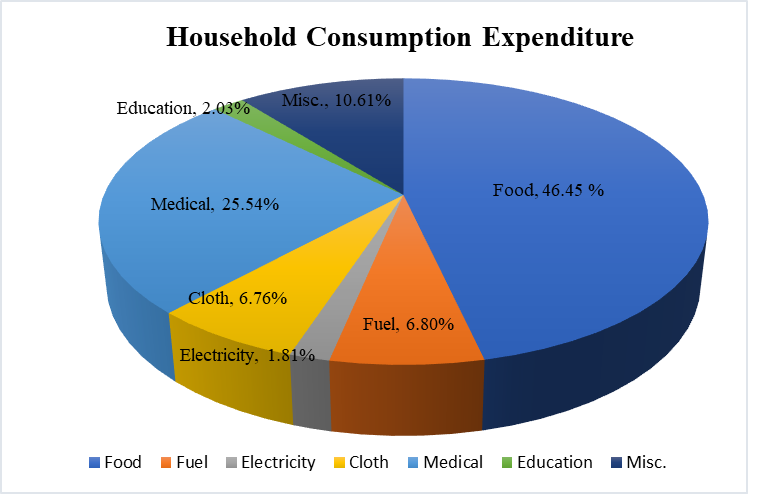
The households' total monthly consumption in rupees is shown in Table 3. Table 3 shows that the minimum consumption level is Rs.6200 per month and the highest isRs.10155 per month. The average total household consumption expenditure is Rs. 8119.1 per month.

**Table 3: Summary of the total monthly consumption of households**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Statistics** | **N** | **Minimum** | **Mean** | **Median** | **Maximum** | **Std. Deviation** |
| Value | 50 | 6200 | 8119.10 | 7958.50 | 10155 | 969.154 |

**Patterns of Household Consumption Expenditure**

The household consumption expenditure (Figure 1) shows that nearly half (46.45 per cent) of the total spending is allocated to food, making it the dominant category in household budgets. Medical expenses account for 25.54 per cent, reflecting a significant portion dedicated to healthcare needs. Other notable expenditures include fuel (6.80 per cent), clothing (6.76 per cent), and miscellaneous items (10.61 per cent), covering a variety of everyday essentials. Education and electricity receive smaller shares at 2.03 per cent and 1.81 per cent respectively, indicating lower priority compared to basic needs like food and healthcare.



**Figure 1: Patterns of Household Consumption Expenditure**

**Econometric results**

The table presents the results of a multiple regression analysis where the dependent variable is influenced by age, family size, education, disposable income, and savings. Family size and disposable income have significant positive impacts on the dependent variable household consumption expenditure, with p-values of 0.029 and 0.000. On the other hand, savings show a significant negative relationship with the dependent variable, also at the 1 per cent significance level (p = 0.000). Age and education do not have a statistically significant effect, as their p-values exceed 0.05. The regression model explains 67.3 % (R2**=** .673) of the variance in the dependent variable, with an adjusted R² of 0.635 and Durbin-Watson statistic is 1.6.

**Table 4 : Results of multiple regression analysis with all variable**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Unstandardized Coefficients** | | **Standardized Coefficients** | **t** | **p-value** |
| **B** | **Std. Error** | **Beta** |
| **(Constant)** | 6158.110 | 759.792 |  | 8.105 | .000 |
| **Age** | -15.182 | 11.067 | -.134 | -1.372 | .177 |
| **Family Size** | 218.101 | 96.713 | .195 | 2.255 | .029\*\* |
| **Education** | -97.690 | 112.014 | -.080 | -.872 | .388 |
| **Income** | .224 | .042 | .490 | 5.353 | .000\* |
| **Saving** | -1359.060 | 179.806 | -.661 | -7.558 | .000\* |

R2- .673, Adjusted R2- .635, Durbin-Watson-1.6 \*\*Significant at 5%, \*Significant at 1%

we removed the nonsignificant variables like age and education and fitted the model with significant variables. The results are shown in Table 5.

**Table 5: Results of multiple regression analysis with the selected variable**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Unstandardized Coefficients** | | **Standardized Coefficients** | **t** | **p-value** |
| **B** | **Std. Error** | **Beta** |
| **(Constant)** | 5650.873 | 672.976 |  | 8.397 | .000 |
| **Family Size** | 211.200 | 96.629 | .189 | 2.186 | .034 |
| **Income** | .206 | .040 | .450 | 5.215 | .000 |
| **Saving** | -1320.377 | 177.816 | -.642 | -7.426 | .000 |

R2- .657, Adjusted R2- .635, Durbin-Watson- 1.62, \*\*Significant at 5%, \* Significant at 1%

**The estimated regression model is written as follows:**

Est Ci = 5650.873 + .206 (Disposable income) + 211.2 (family size) - 1320.377 (Save)

Where,

* Est Ci represents the estimated monthly total consumption of the household

The equation represents an estimate of household consumption (Ci) based on three factors: disposable income, family size, and savings. The constant 5650.873 is the base level of consumption when all other variables are zero. For every unit increase in disposable income, consumption increases by 0.206 units, while an additional family member leads to a rise in consumption by 211.2 units. However, a rise in savings reduces consumption, with every unit saved decreasing consumption by 1320.377 units.

**CONCLUSION**

The study analysed the demographic characteristics and household consumption patterns of 50 respondents. The average respondent age is 43.20 years, with a mean household size of 4.7 members. Monthly household income ranges from Rs. 8000 to Rs. 18500, with an average of Rs. 11540. Household consumption primarily focuses on food (46.45 per cent), followed by medical expenses (25.54 per cent), with an average monthly expenditure of Rs. 8119.10. Regression analysis shows that family size and disposable income have positive effects on household consumption, while savings have a significant negative effect. Variables like age and education were found to be insignificant. The final regression model explains 65.7 per cent of the variance in consumption expenditure. In conclusion, larger households and higher incomes drive higher consumption, while increased savings reduce spending.

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