International Journal of Social Science, Management and Economics Research
Volume 2 Issue 6 Nov-Dec 2024
ISSN: 2583-9853| www.ijssmer.com

DETERMINANTS OF HOUSEHOLD CONSUMPTION OF CHATTOGRAM CITY: AN ECONOMETRIC ANALYSIS

Abeda Sultana,
Associate Professor, Faculty of Business Studies, Premier University, Chattogram, Bangladesh.
PhD Researcher (Economics), Bangladesh University of Professionals, Mirpur Cantonment, Dhaka, Bangladesh
MPhil (Economics), University of Chittagong

Tahmina Reza*,
Assistant Professor, Faculty of Business Studies, Premier University, Chattogram, Bangladesh,
MPhil Researcher (Marketing), University of Chittagong, Chittagomg, Bangladesh
BBA & MBA: Department of Marketing, University of Chittagong, Chittagomg, Bangladesh
(Corresponding Author) *,

Farah Israt Tania,
Assistant Professor, Faculty of Business Studies, Premier University, Chattogram, Bangladesh
MPhil Researcher (Marketing), University of Chittagong, Chittagomg, Bangladesh
BBA & MBA: Department of Marketing, University of Dhaka, Dhaka, Bangladesh

&
Anindita Chakroborty
Assistant Professor, Faculty of Business Studied, Premier University, Chattogram, Bangladesh,
MPhil Researcher (Marketing), University of Chittagong, Chittagomg, Bangladesh
BBA & MBA: Department of Marketing, University of Chittagong, Chittagomg, **Bangladesh**

Received: 11/11/2024 Accepted: 21/11/2024 Published: 25/11/2024

DOI - https://doi.org/10.61421/IJSSMER.2024.2605

ABSTRACT

This study aims to explore the various determinants that could impact household consumption. This paper seeks to uncover the relationship between multiple dimensions and consumer spending, shedding light on critical factors influencing consumption patterns. A sample of 360 responses was collected from consumers in different areas in Chattagram. Following the quantitative research methodology, the data were collected using simple random sampling. A questionnaire was used to collect the data by using depth interviews. Multiple regression analysis assessed the factors impacting household consumption expenditure in Chattagram City. The findings reveal that income, age, household size, education level, gender of the household head, savings, and investment significantly contribute to the household monthly consumption expenditure of Chattagram city. The result also shows that the more the investment income, the more the consumption expenditure. This study will aid policymakers in identifying the key factors that significantly influence household consumption and in formulating effective policies to boost household consumption, thereby driving economic growth in the economy.

Keywords: Gross Domestic Product, Investment income, Households, Consumption, Education, Savings, Disposable Income.

1. INTRODUCTION

Individuals or households within the economy make the monetary outlay known as consumption. The gross domestic product (GDP) is significantly impacted by gross consumption, which can be categorized into three primary groups: durable goods, nondurable products, and services. As consumers acquire a greater quantity of these products, companies have a larger amount of money available to invest in and grow their business activities. This promotes aggregate demand, reduces unemployment, and nurtures economic expansion inside the nation. Aggregate consumption consists of three components: the purchase of goods and services to meet households' daily needs, partial payments for products and services provided by government entities, and payments made to government agencies for various licenses and permits. In most countries, consumption generally accounts for the largest share of a nation's Gross Domestic Product (GDP). (Dilanchiev & Taktakishvili, 2021)

Household consumption is often considered the primary goal of economic activity, and the per capita consumption level typically serves as a crucial measure of an economy's productive success. Consumerism has a crucial role in shaping the general welfare of people globally. (Bonsu & Muzindutsi, 2017)

The factors that affect consumption spending have been a significant focus for scholars and policymakers in both developed and developing countries. This is because consumption expenditure is a key concept in both micro and macroeconomic theories. Over the past three decades, it has become the central subject of the most perceptive empirical studies in macroeconomics. (Chukwudi Odionye, 2019)

Empirical research has expressed diverse views regarding the elements influencing private consumption spending, and has included other variables to explain private consumption, such as demographics, liquidity restrictions, social security, household loans, and unemployment. (Chukwudi Odionye, 2019)

Households assess both the benefits and drawbacks of current and future consumption alternatives while making decisions about what to consume. A fundamental objective of macroeconomics has been to understand the determinants that impact households' consumption behavior. Three main theoretical frameworks analyze the subject: Keynesian consumption theory, the life-cycle-permanent-income hypothesis with rational expectations, and the concept of perpetually living agents or altruistically connected consumers. The theories differ in their capacity to clarify the observed consumer behavior and their predictions regarding government measures' influence on individual savings conduct. The Keynesian theory asserts that higher taxes, higher nominal interest rates, or an increase in the money supply consistently influence household spending. However, the other two models propose that identical policies will only affect individual consumption if they are unforeseen. These theories exhibit notable disparities in the influence of the government budget deficit and its means of funding savings. (Raut, 2016)

Friedman (1957) and Ando and Modigliani (1963) based their subsequent research on the "Permanent Income Hypothesis" and the "Life Cycle Hypothesis" on the idea that anticipated income levels over an extended duration, not just the income in the current year, influence consumption. In general, the term "larger time horizon" refers to the average of anticipated and/or previously experienced annual intervals. Mankiw uses the example of the Permanent Income Hypothesis to highlight that "permanent income is equivalent to average income." In addition, his formulation of the Modigliani income variable proposes a similar concept, as it defines the cumulative earnings during a person's lifespan as the multiplication of the income variable and the

duration of their working years. This statement is only applicable if the income variable specifically indicates the mean income. (Mankiw, 2006, pp. 472, 476)

In a developing nation such as Bangladesh, the spending pattern experiences notable transformations as real income rises. Therefore, while planning capacity investment, it is important to account for changes in consumption patterns, among other variables. Hence, it is evident that there is a clear requirement to investigate the factors that influence consumption patterns and to calculate different parameters in the consumption functions for different goods.

The primary determinant of consumption patterns is the income level. However, other factors such as the distribution of income, the level and distribution of assets, the size and composition of households, the number of earners within a household, pricing, and structural and geographical climate differences, can also significantly influence consumption patterns. (Economics, 2017)

The measuring of consumption is crucial in the context of national income accounting and the assessment of aggregate demand. Economic activity is an essential basis for the general health of the economy and plays a vital role in determining the disposable income of households at the individual level. Household consumption has an important function in socio-economic development. Adopting sensible spending patterns and practicing moderation in consumption quantities are crucial for maintaining economic well-being and promoting sustainable growth. These elements directly contribute to the concrete expression of people's living levels. Household consumption expenditures refer to the total amount of money spent by households to meet their different requirements and wants. This category covers both long-lasting and short-lived objects, such as cars, household appliances, and TVs. Household consumption expenditures refer to all purchases made by households, excluding those of residential properties. However, it includes the imputed rent associated with occupied residences. (Hone & Marisennayya, 2020)

The average monthly income of households in Bangladesh has risen nominally to TK 32,422 in 2022, up from TK 15,988 in 2016 and TK 11,479 in 2010. According to the HIES 2022 data, the monthly total expenditure of households has climbed slightly to TK. 31,500 in 2022, compared to TK. 15,715 in 2016 and TK. 11,200 in 2010. The HIES 2022 data shows a shift in the proportion of household spending towards both food and non-food items. Expenditures unrelated to food are experiencing a progressive increase. In 2022, the proportion of expenditure on food consumption is 45.8%, while non-food consumption accounts for 54.2%. This is a change from 2016, where food consumption made up 47.7% of expenditure, and non-food consumption accounted for 52.3%. (Bangladesh Bureau of Statistics (BBS), 2023)

This article analyzes the factors that influence household consumption in Chattogram City. The study used econometric analyses. Following the introduction, the next section offers a thorough examination of the literature on household consumption and other macroeconomic indicators. Furthermore, it presents the empirical findings related to the ongoing research project. The second section of the article covers an elaborate description of the applied technique, encompassing the particular methodology, factors taken into account, and data sources. The third section gives the empirical findings alongside a comprehensive analysis. The final section ultimately presents the results and suggestions.

2. LITERATURE REVIEW

2.1 Theoretical Framework

Macroeconomic theory states that aggregate consumer spending is a key element of aggregate demand. We must comprehend the factors that shape and define consumer behavior. Economists

such as Keynes (1936), Duesenberry (1949), Friedman (1957), and Ando and Modigliani (1963) researched both quantitative and qualitative variables, considering the aspects that impact consumer spending. These theories include 'the life-cycle theory' by Modigliani in 1963, 'the permanent income hypothesis' by Friedman in 1957, 'the relative income hypothesis' by Duesenberry in 1949, and 'the absolute income hypothesis' by Keynes in 1936.

Keynes proposed in The General Theory that real consumption is a constant function of real income and that the marginal propensity to consume is positive and less than unity. This perspective identifies income as the primary factor that influences consumption. Keynes illustrated this with a conceptual leap forward in 1936. The ratio of consumer expenditure to income is subject to variation over time and among families. Keynes laid the groundwork for modern theories of consumption in 1936. According to Keynes, the current real income is the primary factor driving consumption, and since income and the interest rate's substitution effect balance each other out, the interest rate does not affect these decisions. Keynes's reasoning led him to three significant conclusions. First, the absolute income for the present time is the primary element driving consumer spending. Second, consumption is an absolute positive function of current income, and third, expenditure on consumption rises with income (Jhingan, 2002).

Irving Fisher also proposed a second alternative in 1930, which is grounded in neoclassical theory and holds that a household would sacrifice some expenditures now to accumulate more in the future and vice versa. As a result, variables other than current income affect consumption; they include interest rates and income projections. There are two consequences of every change in the real interest rate: the income effect and the substitution effect.

In 1949, Duesenberry presented an alternate perspective. According to Duesenberry's (1949) study, the levels of consumption attained in the former era influence contemporary consumption as well as the current absolute and relative income levels. Furthermore, Duesenberry put out a theory of consumer behavior that places more emphasis on relative wealth than absolute money as a determinant of a person's consumption. His idea is known as the relative income hypothesis of consumption.

Friedman developed the permanent income hypothesis in 1957, which holds that a person's spending is based more on their future income than their current income.

Friedman published the perpetual income theory in 1957, and it addresses consumer behavior. The permanent income hypothesis (PIH) states that a person's consumption is more reliant on their income in the future than on their current income. The former refers to a consistent income that individuals anticipate to have in the future. The latter fluctuates around the national average income. It stands for the gap between short-term current revenue and long-term permanent income.

Ando and Modigliani (1963) first proposed the life-cycle hypothesis in the early 1950s. According to this theory, an individual plans an even consumption profile throughout their lifetime, which depends more on expectations of income throughout their entire life cycle than it does on current income.

Recent research has expanded upon these theories by exploring the influence of the rapidly shifting global economic environment, in addition to new socio-economic and demographic factors, on household consumption. This research has been conducted in recent years. Elias, H., Beshir, M., & Mehare, A. (2022) conducted a study that highlights the impact of changing family structures and modern income dynamics on consumption habits. Varlamova and Larionova (2015) highlight the significant role of disposable income, inflation, and education in shaping household spending behaviors. These insights refine earlier theories by adding a modern lens to consumer behavior

analysis. Recent research on the ways in which the fast-changing global economic landscape influences household spending in addition to other socioeconomic and demographic variables has reinforced these ideas.

Though there are significant similarities and differences among these theories in terms of their implications for stabilization policy, they seem to suggest that macroeconomic factors that affect income can also have an indirect impact on family consumption.

2.2 Empirical Studies on Household Consumption Expenditure

The researchers also conduct experimental studies that utilize a variety of models or a combination of variables to examine the relationship between household consumption and other macroeconomic conditions. Studies from developing countries have looked at a variety of macroeconomic factors to explain consumption patterns (Akekere and Yousuo, 2010; Ofwona, 2013; Deaton, 1992; Muellbauer, 1994; Attanasio, 1998; Carroll, 2001; Byrne and Davis, 2003; and Bover, 2005). Recent studies have continued to build on this foundation, particularly in emerging economies. For instance, Li, J., Wu, Y., & Xiao, J. J. (2020) investigated how digital financial inclusion shapes household consumption trends in Brazil, discovering that access to digital payment systems positively influences consumption decisions. Similarly, Agarwal, S., & Mannil, N. (2023) explored the impact of economic shocks, such as the COVID-19 pandemic, on consumption patterns in South Korea, highlighting changes in spending on essential versus non-essential goods.

In addition, several theories and empirical studies have included additional variables—like household loans, unemployment, social security, liquidity restrictions, and demographics—to account for consumption. This comprehensive approach helps capture both macroeconomic and microeconomic influences on spending behaviors. This study examined the following variables to determine their impact on real private consumption: the age of the household head, the size of the household, the years of education completed by the household head, the gender of the household head, the saving status of the household, the number of earning members in the household, the occupation of the household head, income from investments, and the dwelling area of the household.

In the field of economics, the term "consumption" encompasses the acquisition of goods and services, including durable items such as furniture or cars, as well as works of art that may appreciate in value over time (Enbeyle et al., 2020). Human needs manifest as primary and secondary needs in daily life, including food, health, education, and entertainment, while consumption patterns allocate things and services to individual and family interests based on governance and responsibilities (Rusdiana et al., 2020). The size of the family affects the consumption pattern; the fewer family members, the fewer want to be satisfied. However, when the number of family members increases, so do the requirements (Aziz et al., 2019).

A recent meta-analysis by Sun et al. (2022) highlighted how household demographics, especially the role of women as financial decision-makers, significantly influence consumption expenditures in Asian economies. This finding aligns with prior studies while providing a contemporary understanding of gender dynamics in household spending.

Kai and Papa (2010) used time series data from 2000 to 2007 to examine the factors influencing China's private consumption relative to GDP. Based on household income, they looked at private consumption as a percentage of GDP, public consumption as a percentage of GDP, real GDP growth, real interest rates, CPI inflation, changes in terms of trade, the dependency ratio for older people, changes in the real effective exchange rate, the share of jobs in the services sector, a measure of past foreign financing, and a measure of financial development. The analysis found that

the only repressor that had no apparent effect on private consumption, either positively or negatively, was inflation.

Additionally, Wadad (2011) conducted econometric research on the private consumption function in Lebanon using yearly time series data covering the years 1970 to 2008, demonstrating the impact of primary macroeconomic determinants that drive the rise in private consumption expenditures. The study used the Johansen integration approach to ascertain the long-term association between real private consumption, real disposable income, real interest rate, predicted inflation, and wealth. The author discovered that each of the repressors had a substantial impact on real private consumption.

Another recent investigation by Panakaje, N., Rahiman, H. U., Parvin, S. R., Kulal, A., & Siddiq, A. (2023) examined the influence of financial literacy on household consumption behavior in rural India. Their findings suggest that increased awareness of financial tools leads to higher spending on education and health, indicating the role of education in shaping consumption priorities.

Akekere and Yousuo (2012) examined the evolution of Nigeria's GDP from 1981 to 2010, and their results showed that GDP had a significant and favorable impact on private consumer expenditure. This result suggests that increasing economic growth would increase household expenditure. Ofwona (2013) discovered that income had a considerable effect on household spending in Kenya, which supports this conclusion. According to Mishra (2011), real private consumption spending has a long-term influence on economic growth in India. However, Mishra (2011) found no link between consumer spending and short-term economic growth. Several studies, including those by Amin (2011), Chioma (2009), Mallik and Pradhan (2012), and Alimi (2013), have demonstrated a link between family patron spending and income. According to Alimi's (2013) examination of the connection between income and consumer expenditure in Nigeria, as profits climb, so does the average urge to eat. This aligns with Keynes' theory of absolute income. Mallik and Pradhan (2012) looked at the relationship between personal income and per capita consumer spending in India and found that variations in per capita consumption expenditure lead to variations in disposable income for individuals. Verter and Osakwe (2014) also emphasized the importance of net disposable income, cross-cultural dynamics, inflation rate, and saving rate in influencing household spending in the Czech Republic. Additional empirical studies (Tellis and Ackerman, 2001; Dvoáková and Seidler, 2012; Gerstberger and Yaneva, 2013) show that price levels and household disposable income have a significant impact on consumer purchasing. According to Chari et al. (2002), fluctuations in the real exchange rate affect household spending. Choi (2005) considered relative trade flows and found a connection between consumption ratios and exchange rates. Brandt et al. (2006) recognized asset markets as the primary risk factor contributing to the discrepancy between the real exchange rate and consumption. Stronger inflation expectations and lower real interest rates reduce savings and enhance spending during periods of steady nominal interest rates, according to some studies (Doepke and Schneider, 2006; Mian et al., 2013). Aruoba and Schorfheide (2011) state that the impact of real interest rates on household spending is contingent upon the sort of money that households want to use, i.e., consumers' usage of paper money as a medium of exchange. Therefore, we can perceive growing inflation as an implicit tax on paper money and a means of decelerating economic growth. Taylor (2013), Pastor and Veronesi (2013), and Bloom (2009) strengthened this idea by suggesting that higher inflation may increase inflation uncertainty, which in turn influences consumer spending. Income and family size directly affect consumption, whereas savings have the reverse effect, claim Hone and Marisennayya (2019). Disposable income is the primary factor determining household consumption spending, according to academics. Age, gender, education level, and study are independent characteristics that also affect the total household consumption expenditure. Studies reveal a positive correlation between family size and

disposable income, while a negative correlation exists between savings and consumption. Furthermore, Varlamova and Larionova (2015) highlight the significant influence of demographic (population size and educational attainment of the population) and macroeconomic (disposable income, inflation, government expenditure, and interest rate) factors on consumer spending. The main factors influencing household spending, according to the authors, are imports, taxes, income, and pricing. There is a statistically substantial and frequent relationship between income and education.

The previously discussed empirical data reveals that numerous writers have observed a positive, negative, or neutral relationship between various determinants and household consumption spending across different continents and nations. Furthermore, whereas household consumption expenditure drivers are comparable in many contexts, socioeconomic factors vary and exhibit distinct effects depending on the particular circumstances. To fill the gap in the analysis of the effects of various household variables on consumption expenditures, this study examines the following: the age of the head of the household, the size of the household, the years of education completed by the head of the household, the gender of the head of the household, the saving status of the household, the number of earning members in the household, the occupation of the head of the household, income from investments, and the dwelling area of the household.

3. DATA AND METHODOLOGY

Chattogram is a city in southern Bangladesh and the capital of an eponymous district and division. Built on the banks of the Karnaphuli River, the city is home to Bangladesh's largest and busiest seaport. It is the commercial and manufacturing center of Bangladesh. It is located towards the southeast of the capital city of Dhaka, which is around 280 kilometers from the capital. It is situated between 22°-14′ and 22°-24′-30′′N Latitude and between 91°-46′ and 91°-53′ E Longitude, and on the right bank of the river Karnaphuli, some 19 km (12 mi) from its mouth at the Bay of Bangle. The city has an area of 5,283 square kilometers with a population of 5,380,000, making it the second largest city in Bangladesh.

3.1 Data Collection

This study used an approach known as socioeconomics to examine the factors influencing household purchasing behavior. The polling and observational procedures employed a combination of closed- and open-ended questions to collect data. Data gathering involved conducting in-depth interviews with 360 randomly selected families, ensuring equal inclusion opportunities for all families in the city.

We carefully selected the subjects to ensure they were good representations of the entire group, reducing bias. We asked people from different parts of cities to help investigate differences in work, family size, income, and schooling. While simple random selection reduces selection bias, individuals who do not respond or provide inconsistent information during conversations could potentially alter the results. We conducted pilot tests of the pre-survey and interview training to address these issues.

From January to July 2023, the process of gathering data took place. We conducted qualitative and semi-quantitative studies when necessary to supplement the descriptive figures used in the original data analysis. The poll also asked about things like gender, age, marital status, and work, as well as other demographic information. This thorough way of collecting data builds a strong base for further statistical analysis.

3.2 Model Specification

Following multiple linear regression model is used to determine the factors that affect the consumption expenditure of the households of Chittagong City:

$$CON = a_o + a_1 INC + a_2 AGE + a_3 AGE^2 + a_4 HS + a_5 EDUC + a_6 MALE + a_7 SAV + a_8 EM + a_9 OCP + a_{10} INV + a_{11} AREA + \mu \quad (1)$$

- CON= per month total consumption expenditure on food and non-food items of a household
- INC= household total monthly income after tax
- AGE= age of the household head
- HS= size of the household
- EDUC= years of education completed by the household head
- MALE= gender of the household head; if female= 0, and male= 1
- SAV= saving status of the household; if yes = 1, and no = 0
- EM= number of earning members in the household
- OCP=occupation of the household head; if formal job= 1, and informal or others=0
- INV= income from investment; if yes = 1, and no = 0
- AREA= dwelling area of the household; if decent residential area in the city= 1, and for others non-residential area = 0
- ao is the autonomous consumption or constant
- a1, a2, a4, a5, a6…….a11 is the coefficient of the explanatory variable
- μ is the error term

4. RESULT AND DISCUSSION

4.1 Demographic Characteristics of the Respondents

Table 1 represents the demographic characteristics of the respondents where 81.39 % of them are male and 18.61% are female respectively. The majority of the respondents are married (93.61%), and only 6.39% are single. According to Table 1 age distribution of the respondents is from 26 years to 70 years. 16.67% of the respondents are from the age group 51-55, followed by the age group of 56-60 years (15.83%), then 41-45 years (15%), 46-50 years (12.22%), 36-40 years (11.94%), 31-35 years (10.83%), 61-65 years (6.94%) and only 1.94% are from the age group of 66 -70 years. The majority of the respondents have a graduation degree (51.67%), then 22.5% of them complete their higher secondary, 9.72% have Secondary education, 8.89% of them are illiterate or have completed their primary level of education, and 7.22% possess their post-graduation respectively. Additionally, 58.33 % of the respondents are involved in some formal job, and the rest of them (41.67%) are doing business or involved in any other informal job.

The data represents that, 9.44% of the respondents' households have less than Tk 20,000 monthly disposable income, 18.61% have a disposable income range of Tk20, 000-Tk39,999, 19.72% have a disposable income of Tk40,000-Tk59,999, 24.17% have the disposable income of Tk 60,000-Tk79,999, 17.5% have Tk 80,000-Tk99,999, and 10.56% have the disposable income of more than Tk99,999. Only 27.59% of the respondent's spouses are employed, while 72.4% are employed. Besides, most of the respondents have no children yet (35.28%), followed by having one child (29.72%), then having two children (23.33%), having three children (9.44%), and having four or more children (2.22%), respectively.

Table 1: Respondents demographic characteristics

Characteristics		Frequency	Percentage
Sex	Male	293	81.39
	Female	67	18.61
Marital Status	Single	23	6.39
	Married	337	93.61
Age(Years Old)	26-30	31	8.61
	31-35	39	10.83
	36-40	43	11.94
	41-45	54	15
	46-50	44	12.22
	51-55	60	16.67
	56-60	57	15.83
	61-65	25	6.94
	66-70	7	1.94
Educational Status (years of Schooling)	0-5	32	8.89
	6-10	35	9.72
	11-12	81	22.5
	13-16	186	51.67
	17 & above	26	7.22
Nature of Employment	Formal Job	210	58.33
	Business and others Informal Job	150	41.67
Monthly Disposable Income of the Household	Less than Tk 20,000	34	9.44
	Tk 20,000-Tk 39,999	67	18.61
	Tk 40,000-Tk 59,999	71	19.72
	Tk 60,000-Tk 79,999	87	24.17
	Tk 80,000-Tk 99,999	63	17.50
	More than Tk 99,999	38	10.56
Spouse Participation in Income Generation	Yes	93	27.59
	No	244	72.40
Number of Children	0	127	35.28
	1	107	29.72
	2	84	23.33
	3	34	9.44
	More than 3	8	2.22

4.2 Descriptive Statistics of Consumption

In this section, we analyze the descriptive characteristics of consumption expenditure and its different components. According to Table 2 minimum level of monthly consumption is TK 7000 while the maximum is Tk120, 000. The median monthly consumption is Tk40, 000 which indicates fifty percent of the respondent's households consume less than Tk40, 000. The average or mean value is Tk 42336.11, very close to the median. The value of the 3rd quartile is Tk50, 000, far away from the maximum. This is because a few numbers of households consume high as compared to majority of the households. The distribution of household's monthly consumption in Figure 1 also indicates this. 75 percent of the respondent's households consume less than Tk 60,000. So, the data of monthly consumption according to the figure is not exactly normal.

As Table 2 represents households spend more on food items, than on housing, health, and education (according to mean value). Comparatively less amount expended for cloth, energy and other miscellaneous activities like recreation, transportation and so on.

Table 2: Descriptive measure of consumption and its components

	Total Monthly Consumption	Components of Consumption						
		Food	Education	Housing(rent)	Energy	Cloth	Health	Others
Maximum	120000	45000	33000	41000	22000	15000	40000	24500
Minimum	7000	5000	0	1100	900	500	1000	0
1st Qu	25000	10000	4500	9000	5000	3000	8000	3000
Median	40000	19000	9800	17700	7500	6500	13000	7000
Mean	42336.11	22336.7	10978.32	18865.51	8548.76	6876.27	14657.84	8876.46
3rd Qu	50000	28000	15700	26000	13000	8500	17000	11000

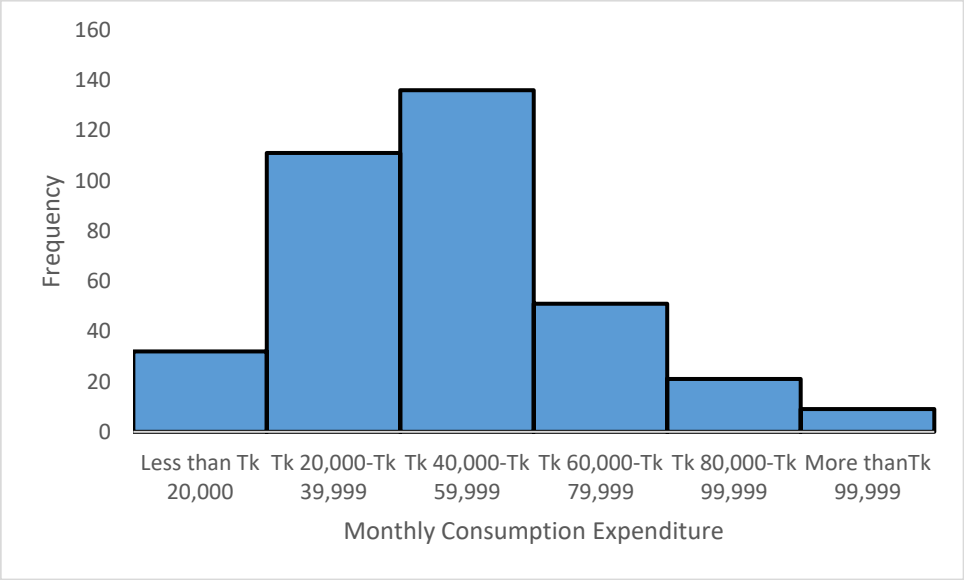

Figure 1: Distribution of monthly consumption expenditure of the households

a. Regression result

At first we estimate the following simple Keynesian consumption model.

$$CON = a_0 + a_1 INC + \mu$$

Table 3 shows the result of this simple regression. Autonomous consumption is TK25, 379.89 which is significant at a one percent level. The coefficient of income indicates that the marginal propensity to consume is 0.3616 units which means if income increases by one unit then consumption increases by 0.3616 units. This result is also significant at a one percent level. Here we consider income as the only determinant of consumption that's why the adjusted R-squared

value is 0.439. Therefore 43.9% variation in consumption can be explained by the income of the households.

As we take only one explanatory variable the model has the heteroskedastic error (p-value of Breush-Pagan Godfrey test is small compared to 0.05), and specification error (p-value of Reset test is 0.00). According to the diagnostic test the model error term is normally distributed (the p-value of the Jarque-Bera test is higher than 0.05).

Table 3: Result of simple regression

Variable	Estimated Coefficient	P-value
Income	0.361600	0.0000
Constant	25379.89	0.0000
Adjusted R-squared	0.439	
Diagnostic Tests		
	Test Statistic	**Probability**
Heteroskedasticity (Breush-Pagan Godfrey)	27.843	0.000
Ramsey Reset	303.97	0.000
Normality (Jarque-Bera)	0.478	0.889

Now we estimate the multiple regressing model by following equation 1 and the result is shown in Table 4. As the table shows autonomous consumption is Tk 103.106 and the marginal propensity to consume is 0.2336. Both are statistically significant as the p-value is small compared to 0.05. According to p-value in the Table 4 income, age, household size, education level, gender of the household head, savings, and investment income significantly contribute to assuming the household's monthly consumption expenditure of Chittagong City. The co-efficient of the age of the household head is positive but a square of age is negative, which indicates that at an early stage of life consumption expenditure increases with the growing age of the household head but after a certain threshold level of age consumption decreases as the household head becomes older. The co-efficient of household size informs that holding all other constant additional one member of the household increases the consumption by Tk3154.901. The result specifies that an extra one-year education for the household head increases the consumption expenditure by Tk1659.0046. The coefficient of the dummy male demonstrates that the male-dominating household expends Tk722.1038 more for consumption than the female dominating household. The outcome also reveals that if savings of the household increase by Tk1 then consumption expenditure increases by Tk 2281.109 when all other variables remain constant. This result does not support the usual relationship between savings and consumption. The possible reason behind this may be that people of the high-income group usually save more and spend more. Another finding is if a household member gets employed then he or she can enhance the household consumption expenditure by Tk 2290.8411 keeping all other variables unchanged. The coefficient of the dummy occupation of the household head shows that a formal job holder's household consumption TK2305.528 is higher than the other informal job holders or businessmen. A significant finding is holding all another constant a source of investment income increases the consumption by Tk 7188.301. The result also specifies that a household dwelling in a decent residential area in Chittagong City spends Tk1146.527 more than a household dwelling in another non-residential area. One of the reasons behind this result may be the higher living cost of decent residential areas. Several diagnostic tests ensure the unbiasedness and statistical significance of the estimated model. Here the Breush-Pagan Godfrey test indicates that the variance of error is constant, the Ramsey Reset test ensures the model

is free from specification error, and the Jarque-Bera test confirms that the error of the model is normally distributed.

Table 4: Result of Multiple Regression

Variable	**Estimated Coefficient**	**P-value**
INC	0.2336	0.0000
AGE	288.3060	0.0466
AGE^2	-2.0847	0.6474
HS	3154.901	0.0000
EDUC	1659.0046	0.0024
MALE	722.1038	0.0469
SAV	2281.109	0.0337
EM	2290.8411	0.0858
OCP	2305.528	1.0211
INV	7188.301	0.0003
AREA	1146.527	0.0557
Constant	103.106	0.0076
Adjusted R-squared	0.6172	
Diagnostic Tests		
	Test Statistic	**Probability**
Heteroskedasticity (Breush-Pagan Godfrey)	0.0556	0.8139
Ramsey Reset	1.650	0.172
Normality (Jarque-Bera)	0.851	0.278

5. CONCLUSION

The determination of citizens' welfare globally recognizes domestic income, consumption, and wealth as critical factors. Consumption is the primary economic function of households in a nation. Understanding the factors that influence domestic consumption decisions and behavior is one of the most critical aspects of macroeconomics. Aggregate demand assumes household consumption is the largest component playing a vital role in macroeconomic policy. Researchers and policymakers have been studying and discussing the factors that affect consumer spending behavior. The literature of both micro and macroeconomic theories features this concept, highlighting its importance in both advanced and growing nations. Also, consumption expenditure has been considered one of the preferred indicators of living standards and poverty in developing countries. Moreover, people are facing problems getting necessary products because of the volatile state of the country. Therefore, analyzing the impact of various factors that could influence household consumption is essential for financial planning. If a family plans their finances well, they can live a happy life by controlling unnecessary buying habits. This would help them decide how much to spend and save.

This in-depth study looked at many factors that affect household consumption and found strong links between spending on consumption and things like monthly income, age, household size, and the head of the household's level of education, savings, and occupation, number of income earners, investment income, and location. If the size of the household is large, the consumption expenditure is high. The findings also show that the more the earning members the more the consumption expenditure in a family. Investment income, including interest payments, capital gains, and profits, significantly influence people's spending also.

The results provide actionable insights for policymakers. They may emphasize the necessity of programs that will enhance financial literacy to enable families to make educated decisions, therefore increasing financial stability and well-being. Policymakers in Bangladesh might utilize these findings to develop policies that enhance household consumption, thereby stimulating demand and fostering economic growth. The research promotes socio-economic policies that successfully enable long-term growth.

Moreover, Household consumption expenditure can help policy makers regarding monetary and fiscal policy decisions. For example, if household consumption is growing rapidly, the government may adjust interest rates to slow economic growth. If household consumption is weak, the government may implement fiscal stimulus policies to increase demand and encourage economic growth. Analysis of consumption expenditure can help examine long-run issues such as the level of interest rates and the size of the capital stock.

Elaborating on these results with targeted policy recommendations might augment their practical significance, allowing policymakers to tackle difficulties and capture opportunities for sustainable economic growth.

REFERENCE

1) Agarwal, S., & Mannil, N. (2023). 18. Household financial decision making. Handbook of Financial Decision Making, 375.
2) Akekere, J., & Yousuo, P.O.J. (2010). Empirical analysis of change in income on private consumption expenditure in Nigeria from 1981 to 2010. International Journal of Academic Research in Business and Social Sciences, 2(12), 312-331.
3) Aruoba, S.B., & Schorfheide, F. (2011). Sticky prices versus monetary frictions: An estimation of policy trade-offs. American Economic Journal: Macroeconomics, 3(1), 60-90.
4) Attanasio, O. P. (1998). Consumption demand. NBER Working Paper No. 6466.
5) Aziz, A., Permana, I. S., & Alfarisi, M. J. (2019). Factors affecting Muslim household consumption patterns. https://doi.org/http://dx.doi.org/10.2139/ssrn.3445315 Bangladesh Economic Review 2023. Retrieved from https://data.worldbank.org/indicator/NE.CON.TOTL.ZS?locations=BD
6) Bloom, N. (2009). The impact of uncertainty shocks. Econometrica, 77(3), 623-685.
7) Bonsu, C. O., & Muzindutsi, P.-F. (2017). Macroeconomic Determinants of Household Consumption Expenditure in Ghana: A Multivariate Cointegration Approach. International Journal of Economics and Financial Issues, 7(4), 737–745. http://www.econjournals.com
8) Bover, O. (2005). Wealth effects on consumption: Microeconometric estimates from the Spanish survey of household finances. Bank of Spain Working Paper, Documentos de Trabajo, Nº 0522.

9) Byrne, J. P., & Davis, P. E. (2003). Disaggregate wealth and aggregate consumption: an investigation of empirical relationships for the G7. Oxford Bulletin of Economics and Statistics, 65(2), 197-220.
10) Carroll, C. D. (2001). A theory of the consumption function, with and without liquidity constraints. Journal of Economic Perspectives, 15, 23-46.
11) Central Bank of Nigeria (CBN). (2010). Statistical Bulletin, Vol. 21.
12) Chari, V.V., Kehoe, P.J., & McGrattan, E.R. (2002). Can sticky price models generate volatile and persistent real exchange rates? The Review of Economic Studies, 69(3), 533-563.
13) Choi, W.W.Y. (2005). Real Exchange Rates, International Trade and Macroeconomic Fundamentals (Doctoral Dissertation)
14) Chukwudi Odionye, J. (2019). Long Run Determinants of Private Consumption Spending: Evidence from Nigeria. Journal of Business and Economic Development, 4(1), 23. https://doi.org/10.11648/j.jbed.20190401.14
15) Deaton, A. (1992). Understanding Consumption. Clarendon Press.
16) Dilanchiev, A., & Taktakishvili, T. (2021). Macroeconomic Determinants of Household Consumptions in Georgia. Annals of Financial Economics, 16(4). https://doi.org/10.1142/S2010495221500202
17) Dilanchiev, A., & Taktakishvili, T. (2021). Macroeconomic determinants of household consumptions in Georgia. Annals of Financial Economics, 16(04), 2150020.
18) Doepke, M., & Schneider, M. (2006). Inflation and the redistribution of nominal wealth. Journal of Political Economy, 114(6), 1069-1097.
19) Duesenberry, J. S. (1948). Income - Consumption Relations and Their Implications. In L. Metzler et al. (Eds.), Income, Employment and Public Policy. New York: W.W. Norton & Company, Inc.
20) Dvořákováa, S., & Seidler, J. (2012). The Influence of Housing Price Developments on Household Consumption: Empirical Analysis for the Czech Republic. Working Paper No. 22. Retrieved from http://www.bit.ly/1imqVhX.
21) Economics, D. (2017). An Analysis of Consumption Pattern in Pakistan. The Pakistan Development Review, 21(4), 275–296.
22) Elias, H., Beshir, M., & Mehare, A. (2022). Household Saving Behavior in Rural Ethiopia: Challenges and Policy Options. Ethiopian Journal of Economics, 31(2), 33-72.
23) Enbeyle, W., Meslie, Y., & Pandey, D. (2020). Determinants of Household Consumption Expenditure in Tepi Town. International Journal of Intelligent Computing and Technology, 4(1), 40–56.
24) Friedman, M. (1957). A Theory of the Consumption Function. New Jersey: National Bureau of Economic Research.
25) Friedman, M. (1957). A Theory of the Consumption Function. Princeton University Press.
26) Gerstberger, C., & Yaneva, D. (2013). Analysis of EU-27 Household Final Consumption Expenditure: Baltic Countries and Greece Still Suffering Most from the Economic and Financial Crisis. Eurostat Statistics in Focus No. 2/2013. Retrieved from http://www.bit.ly/1n2s52l.
27) Guo, K., & N'Diaye, P. (2010). Determinants of China's Private Consumption: An International Perspective. International Monetary Fund Working Paper WP/10/93.
28) Heshmati, A., Maasoumi, E., & Wan, G. (2019). An analysis of the determinants of household consumption expenditure and poverty in India. Economies, 7(4), 96.
29) Hone, Z., & Marisennayya, S. (2020). Determinants of Household Consumption Expenditure in

30) Tepi Town, SNNPR, Ethiopia. American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS), 62(1), 124–144.
31) Jhingan, M.L. (2002). Macroeconomic Theory (10th Revised Edition). New Delhi, India: Vrinda Publications (P) Ltd.
32) Keynes, J. M. (1936). The General Theory of Employment, Interest and Money. Macmillan.
33) Li, J., Wu, Y., & Xiao, J. J. (2020). The impact of digital finance on household consumption: Evidence from China. Economic modelling, 86, 317-326.
34) Maniriho, A., Musabanganji, E., Nkikabahizi, F., Ruranga, C., & Lebailly, P. (2021). Analysis of the determinants of households' expenditures in Rwanda. UKH Journal of Social Sciences, 5(1).
35) Mian, A., Rao, K., & Sufi, A. (2013). Household balance sheets, consumption, and the economic slump. The Quarterly Journal of Economics, 128(4), 1687-1726.
36) Modigliani, F. (1966). The Life Cycle Hypothesis of Saving, the Demand for Wealth and the Supply of Capital. Social Research, 33(Summer), 160-217.
37) Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In K. Kurhira (Ed.), Post-Keynesian Economics. New Brunswick, NJ: Rutgers University Press.
38) Muellbauer, J. N. (1994). The assessment: Consumer expenditure. Oxford Review of Economic Policy, 10, 1-41.
39) Ofwona, A.C. (2013). An estimation of the consumption function for Kenya using Keynes' absolute income hypothesis for the period 1992-2011. Journal of Emerging Trends in Economics and Management Sciences, 4(1), 103-105.
40) Panakaje, N., Rahiman, H. U., Parvin, S. R., Kulal, A., & Siddiq, A. (2023). Socio-economic empowerment in rural India: Do financial inclusion and literacy matters?. Cogent Social Sciences, 9(1), 2225829
41) Raut, L. K. (2016). Determinants of Consumption and Savings Behavior in Developing Countries. The World Bank Economic Review, 3(3), 379–393.
42) Rusdiana, A., Sanuri, Subandi, M., & Mulyawan, S. (2020). The relationship between socioeconomic status and consumption pattern of fishermen household in Indonesia. Asian Journal of Agriculture and Rural Development, 10(1), 141–148. https://doi.org/10.18488/journal.1005/2020.10.1/1005.1.141.148
43) Saad, W. (2011). An Econometric Study of the Private Consumption Function in Lebanon. International Research Journal of Finance and Economics, Issue 61. Retrieved from http://www.eurojournals.com/finance.htm.
44) Sun, S., Chu, X., & Liu, X. (2022). Urban wage inequality: The reform of state-owned enterprises in China's great transition. Economic and Political Studies, 10(4), 442-461.
45) Supian, K., Abdullah, S. H. S., & Shari, S. S. (2023). The determinants of household consumption patterns in Klang Valley. Journal of Islamic, 8(53), 516-527.
46) Taylor, J.B. (2013). Fed Policy is a Drag on the Economy. Wall Street Journal, 28 January. Retrieved from http://www.wsj.com/articles.
47) Tellis, G., & Ackerman, D. (2001). Can culture affect prices? A cross-cultural study of shopping and retail prices. Journal of Retailing, 77(1), 57-83.
48) Varlamova, J., & Larionova, N. (2015). Macroeconomic and demographic determinants of household expenditures in OECD countries. Procedia Economics and Finance, 24, 727-733.
49) Verter, N., & Osakwe, C.D. (2014). A time series analysis of macroeconomic determinants of household spending in the era of cross-cultural dynamics: Czech Republic as a case study. Procedia Economics and Finance, 12, 733-742.

