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Economic Productivity through Net National Disposable Income: A Study of Consumption Patterns in India

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ABSTRACT: According to the Keynesian consumption function, Consumption expenditure plays a crucial role in determining the Gross Domestic Product (GDP), as evident in the Absolute Income Hypothesis. This concept has subsequently been used in developing the permanent income hypothesis and the life cycle hypothesis. However, when considering the net national disposable income after accounting for factors like net factor income from abroad, taxes, and subsidies, it becomes clear that final consumption expenditure holds a more dominant position. A gap in the existing literature arises from the historical unavailability of data, leading to the use of GDP as a proxy variable instead of net national disposable income when determining the consumption function for India. This research paper aims to address this gap by employing the net national disposable income of the Indian economy to estimate the consumption function for the period between 1994 and 2018. Additionally, it empirically tests the long-term effects of current income and current wealth (defined as past year income minus past year consumption) on consumption within the context of the Indian economy. The empirical findings provide support for a significant positive relationship between consumption and income and wealth. This is further substantiated by the significant values of the marginal propensity to consume (MPC) derived from income and wealth during the given time period. The estimated equation aligns with the life cycle hypothesis for the Indian economy, indicating that long-term, steadfast planning is crucial for improving the productive capacity of the economy, reducing poverty, and enhancing employment levels more effectively.

KEYWORDS: Final consumption expenditure, life cycle hypothesis, consumption function, financial wealth

1. INTRODUCTION

The consumption function has been a subject of considerable discourse in the field of economics and econometric modeling. It pertains to the relationship between consumption and income, where consumption represents the quantity of goods and services individuals desire to purchase for immediate consumption. It is a significant component of aggregate demand within an economy. Particularly in developing countries, the increase in consumption is heavily reliant on income and wealth growth. In the case of India, approximately 70 percent of its GDP is composed of consumption, with private spending playing a vital role in fostering economic growth, surpassing the figure observed in the United States (Haq, 2010). Historically, India's economic growth has been characterized as consumption-led growth.

According to a recent economic survey, private consumption experienced a decline to 3.1% in the first quarter compared to 7.2% in the previous quarter and 7.3% from the previous year. The GDP growth in the first half is projected to be 5.2%. India Ratings anticipates a recovery to 6.9% in the second half, primarily due to the base effect. The survey highlights that the greater challenge facing the economy lies in the demand side, with a collapse in consumption demand and a lack of forthcoming private corporate investment (Gupta & Mittal, 2015; 2022). Therefore, economists assert that measures need to be taken to enhance disposable income and put additional money in the hands of rural and urban households. Furthermore, the

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government should increase its spending on rural infrastructure initiatives such as rural roads, rural housing, and the Mahatma Gandhi National Employment Guarantee Scheme to generate substantial employment that can stimulate consumption demand (Mandal et al., 2022).

Theoretical foundations of consumption behavior are popularized by John Maynard Keynes in his book titled "General Theory of Employment, Interest, and Money" (1936). Keynes posits that consumption is primarily a positive and linear function of national income. He further argues that the relationship between consumption and income is reasonably stable, and with an increase in national income at higher levels, both the consumption and saving rates of the economy would naturally increase. While Keynes acknowledges the significance of other variables influencing consumption, he believes that income is the most crucial factor in determining consumption levels. In his General Theory, Keynes proposes that aggregate consumption is a function of aggregate current disposal income, which is undeniably one of the theory's remarkable insights. Subsequent advancements in consumption theories shed light on how consumption is not solely determined by current income but also influenced by previous income and consumption (Mittal et al., 2021).

A review of fundamental theories of consumption is essential for understanding contemporary research on the consumption function. These theories include Keynes' Absolute Income Hypothesis (1936), followed by Duesenberry's Relative Income Hypothesis (RIH, 1949). This is followed by Modigliani's Life Cycle Hypothesis (LCH, 1949), which will be used to estimate the consumption function in this paper. The Life Cycle Hypothesis posits that individuals seek to smooth consumption over their lifetime, borrowing during periods of low income and saving during periods of high income. Finally, the evolution of the consumption function introduced Friedman's Permanent Income Hypothesis (PIH) in 1957.

2. LITERATURE REVIEW

The existing literature on the relationship between consumption and income provides valuable insights into the dynamics of consumer behavior across different economies and time periods. Several studies have empirically examined this relationship, contributing to our understanding of the factors influencing consumption decisions.

Bunting's (1989) study focusing on US data from 1929 to 1982 supported Keynes's fundamental law, which emphasizes the positive relationship between consumption and income. This finding aligns with the broader Keynesian perspective on consumption behavior.

Blanchard and Perotti (2002) and Fatas and Mihov (2001) took into account exogenous shocks to government spending by considering it as a fixed variable within their vector autoregressive models. Their research shed light on the impact of government spending on consumption dynamics and provided insights into the interplay between government policies and consumer behavior.

Abeysinghe and Choy (2004) conducted a study in Singapore and found evidence of a long-run stable equilibrium relationship between disposable income, consumption, and wealth. This finding suggests the presence of a sustained relationship between these variables, supporting the notion of a stable consumption pattern over time.

Dhakal et al. (2009) focused on the determinants of consumption behavior in India from 1973 to 2006. Their research highlighted the importance of variables such as domestic relative price and exchange rates in influencing consumption decisions within the Indian context. This emphasizes the significance of considering specific economic factors that shape consumption patterns in different countries.

Akekere and Yousuo (2012) investigated the relationship between private consumption expenditure and GDP in Nigeria from 1981 to 2010. Their findings revealed a positive and highly significant association between these variables, indicating the substantial impact of private consumption on overall economic activity.

Ofwona's (2013) research explored the correlation between consumption and income, focusing on the Keynesian economy during the period 1992-2011. The study highlighted the significance of the Absolute Income Hypothesis (AIH), which posits that consumption is primarily determined by current income levels. The findings underscored the robustness and relevance of the AIH within the Keynesian framework.

Hall and Mishkin (1982) investigated the consumption function in the United States and found evidence supporting the life-cycle hypothesis. They highlighted the role of permanent income in determining consumption patterns, suggesting that individuals adjust their consumption based on their long-term income expectations.

Carroll and Summers (1987) examined the consumption behavior of US households and introduced the concept of the "buffer stock" model. They argued that households aim to maintain a certain level of consumption by saving during periods of high income and dissaving during periods of low income, creating a buffer stock of wealth.

Deaton (1991) analyzed consumption patterns in a cross-country context and found a positive relationship between consumption and income, while also highlighting variations in the income elasticity of consumption across different countries. His research emphasized the role of economic development and inequality in shaping consumption behavior.

Attanasio and Weber (1995) explored the role of liquidity constraints in determining consumption patterns. They demonstrated that households with limited access to credit tend to have a higher marginal propensity to consume out of current income, as they are unable to smooth consumption over time.

Andrade and Martins (2005) investigated the consumption-income relationship in Portugal and found evidence supporting the permanent income hypothesis. Their

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research highlighted the importance of incorporating the effects of transitory income fluctuations and uncertainty in understanding consumption dynamics.

Guiso, Jappelli, and Terlizzese (1996) examined the relationship between consumption and income in Italy. They found that consumption is influenced not only by current income but also by past income, suggesting the presence of habits and inertia in consumption behavior.

Gali, Gertler, and Lopez-Salido (2005) focused on the relationship between consumption, income, and monetary policy. Their research emphasized the role of monetary policy shocks in affecting consumption decisions and provided insights into the transmission mechanism of monetary policy on household behavior.

These studies contribute to the existing literature by exploring various aspects of the consumption-income relationship, including the influence of liquidity constraints, credit availability, transitory income fluctuations, and monetary policy shocks. They provide a more comprehensive understanding of the factors shaping consumption behavior and offer valuable insights for policymakers and researchers. Overall, these studies provide a rich body of evidence on the relationship between consumption and income, offering insights into the factors influencing consumer behavior in different economies. The findings contribute to the existing literature and inform our understanding of consumption dynamics, aiding policymakers and researchers in developing effective strategies to promote economic growth and stability.

3. METHODOLOGY

The Central Statistical Office located in New Delhi provides annual data on net national disposable income by resident households through the publication of National Accounts Statistics for India. Additionally, the data on final consumption expenditure is sourced from the World Bank's database. For the purpose of estimating the consumption function, we have utilized time series data spanning from 1994 to 2018 at current prices.

In the context of the life-cycle model proposed by Ando and Modigliani, the determinants of consumption are identified as disposable income and financial wealth. Here, consumption is defined as the total expenditure on goods and services by private residents and non-profit institutions. Consequently, consumption serves as the dependent variable in the consumption function, while the two independent variables are 1) Net National Disposable Income and 2) Financial Wealth.

The life-cycle hypothesis posits that an individual's consumption in any given time period is not solely dependent on current income. It argues that an individual's consumption is influenced by various factors, including the available resources, the individual's age, and the rate of return on their capital. These available resources encompass the existing net worth or net wealth and the present value of current and future labor incomes.

Regarding the data sources and variable definitions, household spending refers to the amount of final consumption expenditure made by resident households to meet their everyday needs. This includes expenses on items such as food, clothing, housing (rent), energy, transportation, durable goods (such as cars), healthcare costs, leisure activities, and miscellaneous services. Household spending, including government transfers, represents the sum of households' consumption expenditure and expenditures of general government and non-profit institutions serving households that directly benefit households, such as healthcare and education.

The category "Housing, water, electricity, gas, and other fuels" encompasses both actual rentals (for tenants) and imputed rentals (for owner-occupied housing), housing maintenance costs, and expenses for water, electricity, and gas. Total household spending is measured in million USD (in current prices and purchasing power parities), as a percentage of GDP, and in annual growth rates. Household spending, including government transfers, is expressed as a percentage of GDP. Furthermore, spending on housing is presented as a percentage of household disposable income. It is worth noting that all OECD countries compile their data according to the 2008 System of National Accounts (SNA 2008) (OECD, 2019).

Household disposable income represents the closest approximation to the concept of income as widely understood in economics. It serves as a measure of the income received by households, encompassing various sources such as wages and salaries, self-employment income, income from unincorporated enterprises, and social benefits. This measure takes into account net interest and dividends received and adjusts for taxes and social contributions paid by households. The term "net" indicates that depreciation costs have been subtracted from the income figures. Additionally, the indicator is presented in real terms, meaning that it has been adjusted to remove the effects of price changes.

Household gross adjusted disposable income, on the other hand, reflects income that has been further adjusted to account for transfers in kind received by households. These transfers can include services such as health or education provided by the government and non-profit institutions serving households (NPISHs) at no cost or at reduced prices. The presentation of this indicator includes both annual growth rates (for real net disposable income) and per capita figures in USD at current prices and purchasing power parities (gross adjusted disposable income).

It is important to note that all OECD countries compile their data on household disposable income in accordance with the 2008 System of National Accounts (SNA 2008) guidelines (OECD, 2019).

After the influential work of Ando and Modigliani, the wealth effect on consumer expenditure has often been examined through the lens of the life-cycle hypothesis (LCH).

This model formulated is as follows:

$$C_t = \alpha A_{t-1} + \beta Y_t + \varepsilon_t \qquad (1)$$

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Where Yt is labor income, At-1 is wealth at the end of period t-1. Ando and Modigliani estimated both α and β positive coefficient.

In order to measure the wealth or Assets, Davidson [5, 6] has suggested wealth can define as follows:

$$A_t = A_{t-1} + (Y_t - C_t) \qquad \_\_\_\_\_\_\_\_\_(2)$$

Where (Yt – Ct) is saving at end of period t. The equations of (1) and (2) can be transformed to the following equations (3) and (4) respectively, which have then included the first and second lag.

$$C_{t-1} = \alpha A_{t-2} + \beta Y_{t-1} + \varepsilon_{t-1} \qquad \_\_\_\_(3)$$

$$A_{t-1} - A_{t-2} = Y_{t-1} - C_{t-1} \qquad \_\_\_\_(4)$$

$$C_t - C_{t-1} = \beta Y_t - \beta Y_{t-1} + \alpha (A_{t-1} - A_{t-2}) \qquad \_\_\_\_(5)$$

Replacing equation (4) in (5) and reordering, we can obtain the equation (6).

$$C_t = \beta Y_t + (\alpha - \beta) Y_{t-1} + (1-\alpha) C_{t-1} + U_t \qquad \_\_\_\_(6)$$

Which is produced an autoregressive-distributed lag model of Ct and Yt. And Ut is error term that is equal to $\varepsilon_t - \varepsilon_{t-1}$.

The above variables in stata are denoted as:

I=Net National Disposable Income (NNDI or Y)

C= Final Consumption expenditure (FCE)

4. ESTIMATION AND RESULTS

STATA software as used for estimating the consumption function for India from 1994- 2018 at current price. As mentioned before, the equation (1) is transformed into equation (6). Therefore, we can measure α and β. Autoregressive Distribued Lag Model estimation was used for the specified equation(6) since ARDL model with lagged variables will give unbiased results for the test statistic. Since the sample size is less therefore R2 appear inflated. If we increase the sample size more than 30 then there presence of multicollinearity in ARDL model is a rare point to locate.

Lists of Tests used :

i. Detrending
ii. Stationarity : Augmented Dickey Fuller Test
iii. ARDL Model
iv. Cointegration among the variables : Bound test
v. Error correction model
vi. Serial correlation : Durbin Watson Test
vii. Heteroskedasticity : Breusch-Godfrey test and White test
viii. Stability of the coefficients : Cusum Test

STATA RESULTS AND COMMANDS

Through stata commands, the time series data was first detrended (because of highly inflated R2) by using the following step by step list of commands :

" reg logfce lognndi t"

"predict logfcedt, residual"

"reg logfce t"

"reg lognndi t"

"predict lognndidt, residual"

"reg logfcedt lognndidt"

```
. predict lognndidt, residual

. reg logfcedt lognndidt

      Source |       SS           df       MS      Number of obs   =        24
-------------+----------------------------------   F(1, 22)        =      0.00
       Model |           0         1           0   Prob > F        =    1.0000
    Residual |  .007481765        22   .00034008   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =   -0.0455
       Total |  .007481765        23  .000325294   Root MSE        =    .01844

------------------------------------------------------------------------------
    logfcedt |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   lognndidt |   4.52e-09   .1751512     0.00   1.000    -.3632413    .3632413
       _cons |  -9.70e-11   .0037643    -0.00   1.000    -.0078067    .0078067
------------------------------------------------------------------------------
```

Then the Autoregressive distributed lag model was checked for any stationarity in data through augmented dickey fuller test :

"line logfce lognndi t, legend{size[small]}"

"reg logfce lognndi t"

showing if R2 is greater than D-Watson test "estat dwatson" the there is presence of non stationarity in data(without lag). Therefore we use Augmented dickey fuller tests(with lags) and the results are as follows:

```
. dfuller logfce, trend regress lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =        22

                               ---------- Interpolated Dickey-Fuller ---------
                  Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(t)             -2.320            -4.380            -3.600            -3.240
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.4231

------------------------------------------------------------------------------
D.logfce     |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      logfce |
         L1. |  -.1407301   .0606675    -2.32   0.032    -.2681878   -.0132724
         LD. |   .6257524   .1573507     3.98   0.001     .2951708    .9563339
      _trend |   .0075849   .0031125     2.44   0.025     .0010457    .0141241
       _cons |   1.826707   .7801236     2.34   0.031      .187728    3.465686
------------------------------------------------------------------------------

. dfuller logfce, noconstant regress lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =        22

                               ---------- Interpolated Dickey-Fuller ---------
                  Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(t)              2.346            -2.660            -1.950            -1.600

------------------------------------------------------------------------------
    D.logfce |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      logfce |
         L1. |   .0015547   .0006627     2.35   0.029     .0001723    .0029371
         LD. |   .5759834   .1700373     3.39   0.003     .2212919     .930675
------------------------------------------------------------------------------

. dfuller logfce, drift regress lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =        22

                               ----------- Z(t) has t-distribution -----------
                  Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(t)              0.956            -2.539            -1.729            -1.328
------------------------------------------------------------------------------
p-value for Z(t) = 0.8245

------------------------------------------------------------------------------
    D.logfce |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      logfce |
         L1. |   .0063958   .0066888     0.96   0.351    -.0076039    .0203955
         LD. |   .5580013   .1738414     3.21   0.005     .1941471    .9218555
             |
       _cons |  -.0645822   .0887808    -0.73   0.476    -.2504025    .1212381
------------------------------------------------------------------------------

. dfuller lognndi, regress lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =        22

                               ---------- Interpolated Dickey-Fuller ---------
                  Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(t)             -0.135            -3.750            -3.000            -2.630
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.9459

------------------------------------------------------------------------------
   D.lognndi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     lognndi |
         L1. |  -.0008519   .0063321    -0.13   0.894    -.0141051    .0124012
         LD. |   .5511531   .1864305     2.96   0.008     .1609495    .9413568
             |
       _cons |   .0287502    .043579     0.66   0.517    -.0624616     .119962
------------------------------------------------------------------------------
```

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```
. ardl logfce lognndi, lags(1 1)

ARDL(1,1) regression

Sample:          2 -         24                 Number of obs     =         23
                                                F(   3,      19)  =    9605.48
                                                Prob > F          =     0.0000
                                                R-squared         =     0.9993
                                                Adj R-squared     =     0.9992
Log likelihood =  76.225884                     Root MSE          =     0.0097

------------------------------------------------------------------------------
      logfce |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      logfce |
         L1. |   .8416167   .1220894     6.89   0.000     .5860805    1.097153
             |
     lognndi |
         --. |   .6122392   .1836927     3.33   0.003     .2277659    .9967124
         L1. |  -.4531626   .2420757    -1.87   0.077    -.9598328    .0535077
             |
       _cons |   1.112597   .8978039     1.24   0.230    -.7665283    2.991722
------------------------------------------------------------------------------
```

The result shows significant p values for all the three regressed variables. Test for bound testing: for checking the cointegration among the coefficient of the variables.

Command for bound testing for calculating the F value " ardl, noctable btest"

The results shows that log of FCE and NNIP is now stationary out of first difference since test statistic is greater than critical values and therefore rejects null hypothesis that series of log of FCE and NNIP is non stationary for with drift and trend term.

Afterwards we go for an Autoregressive distributed lag model defined as the following

Command used: ardl logfce lognndi,lags(1 1)

```
note: estat btest has been superseded by estat ectest
      as the prime procedure to test for a levels relationship.
      (click to run)

Pesaran/Shin/Smith (2001) ARDL Bounds Test
H0: no levels relationship              F =  11.129
                                        t = -4.333

Critical Values (0.1-0.01), F-statistic, Case 3

      | [I_0]   [I_1] | [I_0]   [I_1] | [I_0]   [I_1] | [I_0]   [I_1]
      |   L_1     L_1 |  L_05    L_05 | L_025   L_025 |  L_01    L_01
------+---------------+---------------+---------------+---------------
  k_1 |  4.04    4.78 |  4.94    5.73 |  5.77    6.68 |  6.84    7.84
accept if F < critical value for I(0) regressors
reject if F > critical value for I(1) regressors

Critical Values (0.1-0.01), t-statistic, Case 3

      | [I_0]   [I_1] | [I_0]   [I_1] | [I_0]   [I_1] | [I_0]   [I_1]
      |   L_1     L_1 |  L_05    L_05 | L_025   L_025 |  L_01    L_01
------+---------------+---------------+---------------+---------------
  k_1 | -2.57   -2.91 | -2.86   -3.22 | -3.13   -3.50 | -3.43   -3.82
accept if t > critical value for I(0) regressors
reject if t < critical value for I(1) regressors

k: # of non-deterministic regressors in long-run relationship
Critical values from Pesaran/Shin/Smith (2001)
```

F value is greater than the critical vaues; reject null hypothesis therefore there is cointegration among the variables. Hence we use the error correction model.

Error correction model command: "ardl logfce lognndi ,aic ec regstore(ecreg) "

```
. ardl logfce lognndi ,aic ec regstore(ecreg)

ARDL(2,0) regression

Sample:          5 -         24                 Number of obs     =         20
                                                R-squared         =     0.8032
                                                Adj R-squared     =     0.7663
Log likelihood =  75.933587                     Root MSE          =     0.0061

------------------------------------------------------------------------------
    D.logfce |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ADJ          |
      logfce |
         L1. |  -.2752161   .0635227    -4.33   0.001    -.4098783    -.140554
-------------+----------------------------------------------------------------
LR           |
     lognndi |   .9979901   .0183581    54.36   0.000     .9590726    1.036908
-------------+----------------------------------------------------------------
SR           |
      logfce |
         LD. |   .3513816   .1323039     2.66   0.017     .0709098    .6318533
             |
       _cons |   1.928733   .4552109     4.24   0.001     .9637287    2.893737
------------------------------------------------------------------------------
```

The above ARDL EC model indicates error correction for adjustments in long run and short run which is significant at 1% and the adjustment coefficient is negative(-0.2752161) showing long run convergence among the variables. Also the previous errors will be corrected in the current period.

Diagnostic tests

Since the revised model includes lagged values of the dependent variable, the Durbin–Watson test is not applicable. Therefore we use the following command for regression with lagged variables in order to run the diagnostic tests : "regress logfce lognndi L1.lognndi L1.logfce"

```
. regress logfce lognndi L1.lognndi L1.logfce

      Source |       SS           df       MS      Number of obs   =        23
-------------+----------------------------------   F(3, 19)        =   9605.48
       Model |  2.70078212         3  .900260705   Prob > F        =    0.0000
    Residual |  .00178075         19  .000093724   R-squared       =    0.9993
-------------+----------------------------------   Adj R-squared   =    0.9992
       Total |  2.70256287        22  .122843767   Root MSE        =    .00968

------------------------------------------------------------------------------
      logfce |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     lognndi |
         --. |   .6122392   .1836927     3.33   0.003     .2277659    .9967124
         L1. |  -.4531626   .2420757    -1.87   0.077    -.9598328    .0535077
             |
      logfce |
         L1. |   .8416167   .1220894     6.89   0.000     .5860805    1.097153
             |
       _cons |   1.112597   .8978039     1.24   0.230    -.7665283    2.991722
------------------------------------------------------------------------------
```

.

Durbin Watson test for testing testing serial correlation among the residual terms.

Command: estat dwatson

No serial correlation

Breusch-Godfrey LM test also shows the same

```
. estat bgodfrey, lags (1)

Breusch-Godfrey LM test for autocorrelation
```

lags(p)	chi2	df	Prob > chi2
1	0.024	1	0.8760

H0: no serial correlation

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White test for checking the presence of heteroskedasticity

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(9)      =    18.45
         Prob > chi2  =    0.0303

Cameron & Trivedi's decomposition of IM-test
```

Source	chi2	df	p
Heteroskedasticity	18.45	9	0.0303
Skewness	4.74	3	0.1922
Kurtosis	0.39	1	0.5319
Total	23.58	13	0.0352

It shows homoskedasticity since we were unable to reject null hypothesis.

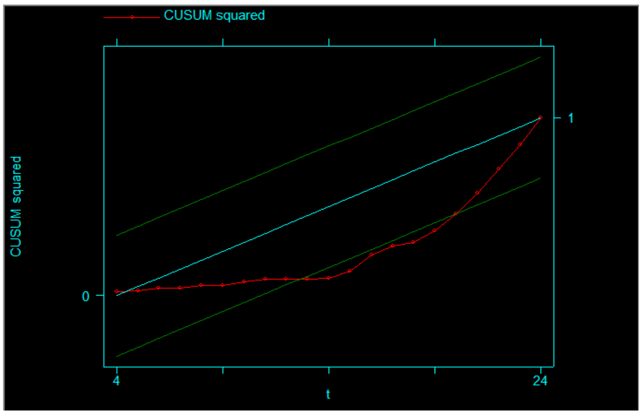
Structural break could also have been checked for consumption as a function of its one year lagged values and income to check, whether coefficients changed at an unknown break date or not, provided the number of observations would have been large enough : using command “estat sbsingle”. This could have helped us to evaluate recent structural break in consumption of India due to rigorous policies like GST, demonitization, undertaken by the government hindering consumption to a great extent.

```
. ardl, noctable btest

ARDL(1,1) regression

Sample:        2 -       24                    Number of obs     =         23
                                               F(   3,      19)  =    9605.48
                                               Prob > F          =     0.0000
                                               R-squared         =     0.9993
                                               Adj R-squared     =     0.9992
Log likelihood =  76.225884                    Root MSE          =     0.0097
```

Cusum test for checking the stability of the model

Command : “cusum6 logfce lognndi , cs(cusum) lw(lower) uw(upper)”

“ dropdrop cusum upper lower”



It shows the model is good and eventually reaches stability.

Table 1: Summary of Results

Coefficient	Coef- Value	T- value
β	.6122392	3.33
α-β	-.4531626	-1.87
1-α	.8416167	6.89
Number of observations	23	
Durbin Watson test	1.888926	
R2	0.9993	
F test	(3, 19) 9605.48	

The regression result, which is reported in table 1 shows that the null hypothesis is rejected hence all coefficients are significant and the equation have validity too. In other words, Obtained R-squared and F- test in the table above show a fairly successful regression as well. D test shows no serial correlation in the residuals.

Calculated MPC out of wealth and MPC out of income based on original life cycle model for India is as follows :

Table 2: MPC

MPC out of Income	**0.612**
MPC out of Wealth	**0.159**

MPC out of Income is greater than MPC out of wealth for India.

5. CONCLUSION

The findings of this paper has demonstrated that the marginal propensity to consume (MPC) out of income is higher than the MPC out of wealth for India, as indicated by the consumption function specified in the Autoregressive Distributed Lag (ARDL) model. Furthermore, the findings highlight that final consumption expenditure is not solely determined by net national disposable income but is also influenced by past consumption and income levels

This paper contributes to the understanding of consumption behavior in India by examining the marginal propensity to consume (MPC) out of income and wealth. The results suggest that individuals in India tend to allocate a larger proportion of their additional income towards consumption compared to their wealth. This finding underscores the importance of income as a primary driver of consumption decisions in the Indian context. Furthermore, the study reveals that final consumption expenditure is not only influenced by the current net national disposable income but also by past consumption and income levels. This indicates the presence of a dynamic relationship between consumption and its determinants, reflecting the impact of past economic conditions on current consumption patterns. Such insights highlight the significance of considering the interplay between historical consumption and income dynamics in understanding the factors shaping consumption behavior. By incorporating these factors into the analysis, this paper provides a more comprehensive framework for estimating the consumption function in India. The inclusion of past consumption and income as determinants of current consumption expenditure offers a more nuanced understanding of the complex dynamics at play.

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These findings have important implications for policymakers and economists interested in fostering sustainable economic growth and promoting consumer welfare. Recognizing the differential impact of income and wealth on consumption decisions can inform the design of targeted policies aimed at boosting domestic consumption and driving economic expansion. Moreover, the acknowledgment of the influence of past consumption and income on current behavior emphasizes the need to consider historical trends and economic context when formulating effective policy measures.

Overall, this study sheds light on the intricate relationship between consumption, income, and wealth in the Indian economy. It underscores the significance of income as a key driver of consumption decisions and highlights the role of past consumption and income dynamics in shaping current consumption patterns. The insights gained from this research contribute to a more nuanced understanding of consumption behavior and provide valuable implications for policymakers seeking to enhance economic stability and consumer welfare in India.

6. LIMITATIONS

Structural break could also have been checked for consumption as a function of its one year lagged values and income to check, whether coefficients changed at an unknown break date or not, provided the number of observations would have been large enough : using command “estat sbsingle”. This could have helped us to evaluate recent structural break in consumption of India due to rigorous policies like GST, demonitization, undertaken by the government hindering consumption to a great extent.

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