

# Choice between Current and Future Consumption Expenditure during Pre and Post New Economic Policy in Indian Economy

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## Abstract

Theory predicts inverse relation between consumption and savings. At any given level of income, increase in consumption results in lowering of savings and vice versa. Hence there is a tradeoff between consumption and savings/investment. Consumption and savings are however, directly related with income. Both consumption and savings play pivotal role in growth of income. Low income results in low consumption and low savings, high proportion of income being absorbed by consumption. Consequently share of savings increases with increase in income. Substitution takes place between consumption and savings with changes in income. This aspect of growth however has not been adequately researched in Indian economy.

**Keywords:** Substitution, Consumption, New Economic Policy, Choices, Structural Change

## Introduction

The consumption decision is based on the choice between the welfare gained from consumption today and expected welfare in future. The consumption of the household depends on the allocation of current income and past savings between current consumption and current savings. Accumulated savings are required to be dissaved, if current income falls short of expenditure needed to be incurred for satisfying current wants. Since, larger the proportion of income put aside for consumption, lower shall be the proportion of income left for savings. Savings relate to the decision to use current income for satisfaction of future wants, resulting in the postponement of satisfaction of some current wants. In this situation, the postponement of satisfaction of some current wants for future satisfaction is not involved if current income is adequate to satisfy all current wants and some surplus is still left as savings. It is therefore a choice between current for future wants. This topic of research has still not been researched in India by the management professionals to determine what is the form and magnitude of these choices between current and future consumption. However, substitution between current and future consumption, reflected by savings, in a dynamic state of growth has also not received adequate attention of researchers. This paper analyzes both these aspects for a period of 61 years from 1950-51 to 2010-2011. Time series data related to GDP in

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current and constant prices, consumption and savings and consumption per rupee worth of saving are split into two parts, PRE NEP (New Economic Policy) period from 1950-51-1989-90 and POST NEP period from 1990-2011 for evaluating the impact of policy on consumers' choice between current and future consumption on the one hand, and for analyzing the structural change consumers' choices on other hand, in Indian economy which seem to have resulted from rapid growth of per capita income in the post-reform period. Alternative theories have been used to explain the level and pattern of consumption and savings at different levels of income. But explanation of trade-offs between current and future (savings) consumption in a dynamic state of growth remains a grey area.

### Relations between Income and Consumption

Income and consumption are bi-directionally but sequentially related. Current consumption depends on current income and past savings if current income falls short of consumption needs. This occurs either at low income and consumption levels, or in a state of rapid growth of income and consumption. As against this, high weight attached to precautionary and speculative motives induce both households and nations to save and invest relatively larger proportion of income. But current consumption promotes growth of future income via multiplier which, in turn, activates accelerator. Choice of allocation of income both at micro and macro levels revolves round current and future consumption. Allocation decision depends upon the urgency of current consumption needs on the one hand, and adequacy or inadequacy of current income and accumulated savings to meet current consumption needs. Future income is used for current consumption if current income and accumulated savings fall short of current consumption needs, and/or the decision makers use consumption loans or plastic money. Future savings may partly be used for current consumption, especially expenditure on durables, which are quasi assets, if purchases are made with finance (Prakash, S. and Bagati, A, 2007, 2010, Bagati, A., 2012). Such purchases involve allocation of part of future income to current consumption. This reflects substitution of current for future consumption. These decision choices constitute two ends of the same spectrum, representing tradeoffs between future and current consumption.

### Objectives

Following are the main objectives: Determination of

1. Choice between current and future consumption and magnitude of income involved in the choice;
2. Change in direction of choice between current and future consumption and magnitude of income involved during pre and post NEP periods; and
3. Impact of change in policy on above choices.

### Methods and Models

Methods of data analysis used in this study range from simple to complex statistical tools. Non-parametric statistical methods are also used in data analysis. Regression analysis is used for estimating direction and magnitude of interrelations.

## Empirical Analysis

### Differences of Means

Mean values of income, consumption and savings at current and constant prices may differ significantly from one to another period. This possibility is evaluated by t test of differences of mean values of income, consumption and savings in current and constant prices for different durations of the period. The usual t test is applied:  $t = \left( \frac{\bar{X}_1 - \bar{X}_2}{S.D} \right) \sqrt{n - 2}$

Following are the calculated values of t statistics:

Table 1: t values for Testing Difference of Means

	Current Prices	Constant Prices
Income	164.28	55.95
Savings	236.60	790.71
Consumption	20.25	37.73
Consumption/Savings	11.5	7.5

Calculated values of t are much greater than the corresponding table value of 2.58 for 0.01 probability level. Means of income, consumption and savings both at current and constant prices differ significantly between pre and post NEP periods. Implementation of NEP since 1990-91 has not only accelerated growth of income, consumption and savings in absolute terms, but the structure of Indian economy has also been changed due to emergence of sizeable middle income class, whose level and pattern of consumption differs significantly from one to another period and from that of low income groups at any given point in time. But the substitution of current for future or future for current consumption still needs evaluation. This has been examined by the changing pattern of consumption relative to savings.

### Substitution Between Current and Future Consumption

The paper has used Solow consumption function. A perusal of observed values of consumption per rupee worth of savings reveals reversal of trend both within and between periods. Consistent decrease in consumption per rupee worth of savings highlights substitution of future for current consumption, whereas increase in the temporal values of the ratio highlights substitution of current for future consumption. This has been examined by linear regression model. OLS estimates of regression of consumption per rupee worth of savings in current and constant prices for 3 periods are reported below:

#### Composite Period (Current Prices)

$$C_t/S_t = 14.209 + 5.89E - 0.97T, R^2 = 0.915, F = 312.6 > F^* = 8.64E - 32$$

$$t: \quad (42.5) \quad (4.24) \quad (-19.33)$$

#### Pre Reform Period (Current Prices)

$$C_t/S_t = 14.72 + 4.37E - 0.6Y_t - 0.288T, R^2 = 0.83, F = 96.8 > F^* = 1.99E - 15$$

$$t: \quad (29.3) \quad (1.20) \quad (-8.4)$$

**Post Reform Period (Current Prices)**

$C_t/S_t = 4.71 + 2.19394E-07Y_t - 0.157 T$ ,  $R^2 = 0.765$ ,  $F = 29.31 > F^* = 2.18$

t: (26.7) (1.81) (-4.31)

**Composite Period (Constant Prices)**

$C_t/S_t = 9779.121 + 0.003Y_t - 357.93T$ ,  $R^2 = 0.836$ ,  $F = 148.69 > F^* = 1.48E-23$

t: (20.92) (7.75) (-14.18)

**Pre Reform Period (Constant Prices)**

$C_t/S_t = 7771.88 + 0.0208Y_t - 812.42T$ ,  $R^2 = 0.948$ ,  $F = 337.79$ ,  $F = 337.79 > F^* = 1.72E-24$

t: (15.16) (8.57) (-14.52)

**Post Reform Period (Constant Prices)**

$C_t/S_t = 13.863 + 1.184Y_t - 3.244T$ ,  $R^2 = 0.930$ ,  $F = 120.6 > F^* = 3.75E-11$

t: (7.44) (5.86) (-9.3)

The estimated functions reveal that the Solow consumption function fits the data well in all periods both at current and constant prices; value of the coefficient of determination ranges from 77 to 95 per cent. Thus, the residual factors explain only 5% to 23% of total change in consumption relative to savings. The coefficient attached to income is positive and statistically significant in all cases except for the case of current prices in pre-economic reform period, critical values of  $t_{0.05}$  for three periods are 1.645 and 1.734 for longer periods of 61/40 years and shorter period of 21 years respectively. The coefficient attached to time is negative and statistically significant in all six cases. Negative sign highlights the fact that consumption relative to savings has been consistently declining over the years, though the rates of decline differ between the periods and constant and current prices. Besides, the Solow consumption function has been shifting downwards to the left. Both these facets highlight the fact that growth of income savings have been attached greater priority in decision making than current consumption, though consistent rise in income both in current and constant prices has taken care of keeping standard of living to rise continuously in the process of growth. All six series have been subjected to Dickey-Fuller test and Engel-Granger tests. Engel-Granger test shows that the residuals of all six functions are stationary and three variables are co-integrated in linear function. The results furnish strong empirical evidence to support the hypothesis that Indian economy has been witnessing continuous substitution of current for future consumption in all periods irrespective of policy paradigm in operation being planning or market reforms and liberalization.

**Impact of New Economic Policy**

It is hypothesized that introduction of new economic policy has not affected income, consumption and savings significantly. This null hypothesis is tested by Median Test, which is non-parametric and distribution free in nature. Policy is basically a qualitative attribute, hence median test is preferred. Median test is used to examine whether time series of GDP, consumption, savings and consumption per rupee worth of savings before and after implementation of NEP are structurally different or not.

Significant difference will highlight structural differences between two series that is assumed to have taken place under the impact of NEP. Hence, the two series/samples cannot be taken to represent the same population.  $\chi^2$ , the statistics of median test has 1 degree of freedom for this test, which is calculated as follows:

$$\chi^2 = \frac{(n_1 + n_2) \{ |AD - BC| - \frac{n_1 + n_2}{2} \}^2}{(A + B)(C + D)(A + C)(B + D)}$$

Following table reports the calculated values of  $\chi^2$

**Table 2 Calculated value of Chi Square**

	Income	Savings	Consumption	Consumption / Savings
$\chi^2$	29.3	0.44	27.31	28.06

Critical value of  $\chi^2_{0.05} = 3.841$

Calculated value of  $\chi^2$  is greater than the critical value for income and consumption. It is, therefore, inferred that new economic policy has significantly affected income and consumption; values of both these variables have changed significantly from pre to post economic reform period. But the calculated value of  $\chi^2$  for savings is much lower than the critical value which means that savings have not changed significantly from pre to post reforms period. Although the income of the country and its household's has increased significantly, yet savings have not changed significantly. However, consumption relative to savings has significantly changed from pre to post reforms period, value of  $\chi^2$  is as high as 28.06.

**Conclusion**

The results furnish strong empirical evidence to support the hypothesis that Indian economy has been witnessing continuous substitution of current for future consumption in all periods irrespective of policy paradigm in operation being planning or market reforms and liberalization. Two factors have affected consumer behavior and consumption after Globalization of Indian economy: Increasing use of plastic money, which enables households to spend more than their current disposable income to propone future consumption to current period. This process has also been facilitated by easy availability of finance for purchasing consumer durables. Emergence of non-banking financial institutions and retail banking added to easy and cheap availability of finance for consumption. This behavior results in increased current consumption and forced savings for the future which makes consumption relative to savings decline. Also middle income class is bulging with increased purchasing power which makes rise in savings relative to consumption both feasible and affordable.

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