

SOME FISCAL AND MONETARY ASPECTS OF CONSUMPTION THEORY

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Consumption theory and analysis of consumption function are the keys in macroeconomics. It is important for the analysis of the function of savings and hence for the investment resources, long-term economic equilibrium and short-term economic fluctuations, for the analysis of conditions and multiplier effect, so consumption theories have fiscal and monetary components that influence in the efficiency of economic policy development or implementation.

During the planning of the government's economic policy, the significance of the consumption theory and consumption function has long been an object of the research of economists. According to the history of the economy in many cases, the very changes occurred in consumptions had been the major precondition of the economic crisis.

Present research analyzing fiscal and monetary aspects of consumption in economic theories developed by different economic school representatives as well as the importance of consumption expenditure fluctuation for sustainable economic growth.

Key words: *consumption function, economic growth, expenditure, fiscal policy, monetary policy.*

JEL Classification: *E21; E62; E52*

I. INTRODUCTION

Consumption theory and analysis of consumption function are the keys in macroeconomics. It is important for the analysis of the function of savings and hence for the investment resources, long-term economic equilibrium and short-term economic fluctuations, for the analysis of conditions and multiplier effect. Based on the above-mentioned the problem of correlation of consumption and savings are of vital importance in both long-term and short-term period to analyze the factors and causes affecting the economic equilibrium.

A number of factors influenced the decision-making process about the consumption by the society. Particularly, the current labor incomes, permanent incomes, incomes received from the property, the expected incomes, expectations concerning the income level in the future, various exogenous shocks, the level of savings, level of unemployment, level of inflation etc. these decisions are made under some limited conditions such as: limitation in receiving liquidity, income inequality, incomplete interchangeable of consumer goods etc. Despite the fact that there are many studies about the theory of contemporary consumption the unified theory of consumption has not been established yet.

II. MONETARY APPROACH

We begin the theoretical basis of research of consumption with the "Theory of the Impossibility of Overproduction" (Блауг, М. 1994:р.137) by Jean-Baptiste Say, the leading French economist of the 19th century. The mentioned theory is the basis of classical school and means that the current incomes cannot be the dominant factor to define the consumption. Also, the "Theory of the Impossibility of Overproduction" is called as "law of supply". The most famous interpretation of the mentioned theory is "supply creates its own demands" by John Maynard Keynes and in its turn it is derived from the interpretation of the law "All sellers are inevitably and by the meaning of the word, buyers" (Кейнс, Дж. М. 2008: р.72) by John Stuart Mill. It referred to the inter determinant of joint demand and joint supply in the market. Say was neglecting the function of keeping the value for money and explaining that people enter the market, on the one hand, to produce goods and on the other, to exchange goods with other various goods they desire. Of course the overproduction of certain goods is possible

¹ Paper was published in the framework of Shota Rustaveli National Science Foundation Grant (PhDF2016_104).

and Say wasn't trying to reject it, because on the microeconomic level the supply – demand curves are separate functions. Functions of macroeconomic joint demand-supply are not characterized by the features of mutual independence and on the contrary, they define each other. Say's "law of supply" separates macroeconomic and microeconomic analysis. Accordingly, based on the macroeconomic viewpoint, if excess supply of any commodity arises, it automatically arises the excess demand of other commodity which balances each other. Say's viewpoint is undoubtedly fair under the conditions of barter exchange, though the generalization of the mentioned conclusions is also possible for no barter-based economy (Monetary Economics). Particularly, if we discuss the money market separately, we will see that when the excess supply arises on the goods and service market, it arises the excess demand on the money market, according to Say's law, the system should be in balance, which means the money market to be in constant balance, and it will make the value for the money indefinite and no matter what factors should it define, their nature will be nonmarket. Based on Say's law, unquestioned neutrality of money will occur in case if the money is distributed equally among the members of society. Therefore, the distribution of income is closely linked with the alteration of relative prices and hence, with the alteration of the profit rate and investment decision-making.

The concept of "Direct Mechanism" by David Hume and Richard Cantillon examines the mechanism of the alteration of relative prices under the framework of Say's law (Блауг, М. 1994:р.143). According to the mentioned concept when we have overproduction on the goods and service market and the level of demand cannot provide the level of price which will be higher than production cost and cannot meet the "criteria of normal profit" it causes excess demand on real money stock and prices should be reduced. The balance on both markets will be established as a result of price reduction and increase of interest rate. An important conclusion based on "Direct Mechanism" is that an exogenous growth of income changes relative prices and exert an influence over investment decisions through it, which in turn changes the structure of the economy and the balance is established under the conditions of the vector of new relative prices.

The above-mentioned concept of "Direct Mechanism" leads us to the classical theory of consumption and it is important to examine the concept of "Indirect Mechanism" by Henry Thornton and David Ricardo. The concept analyses the interconnection of goods and services, money and loan capital markets (Блауг, М. 1994: p.146). Thornton states that in the economy the balance of money market can only be reached when the money market of interest rate is equal to the capital profit rate invested on loan market. On the other hand, the additional money supply to the credit market can only be done by the banking system (inflationary bank credit). Additional supply of loan facilities in comparison to the profit rate reduces the interest rate. The volume of lending is increased in proportion to the increase of price for investment goods which stimulates the demand on loan facilities. Ultimately, demand and supply on the loan facilities market is equal to each other, but, despite this, as long as the interest rate is less than profit rate, demand on loan facilities will remain unmet which results in the increase of interest rate. When the profit rate and interest rate are equal, the economic equilibrium will be achieved. Accordingly, the balance will be established under the conditions of increased prices and "initial" interest rate. Hence the classical economists conclude that the interest rate establishes the balance on the loan capital market.

III. FISCAL APPROACH

As the classical economists' statements are based on Say's law and the so-called "Indirect Mechanism" by Thornton – Ricardo and the Cantillon effect which means that the demand on the loan capital market is defined by the interest rate and for the real savings and the level of bank credit there are the level of prices and vector of relative prices which equals the interest rate and the profit rate to each other, and by which the balance is improved on the loan capital market. Accordingly, the classical approach means that the savings are the complex function of the interest rate, the profit rate and prices dependent on the investment possibilities. Whereas in the Keynesian theory the savings are the function of the current income.

As it was mentioned above, the growth of autonomous expenditures as a result of the income distribution and at the expense of the Cantillon effect can change the relative prices and structure of the economy the unquestioned result of it is not the encouragement of the economy.

In his concept Keynes introduces the concept of multiplication of autonomous expenditures according to which the changes of the autonomous expenditures should have made the incomes to be increased than the surplus of this autonomous expenditures would have been, the extrapolation of which was done on state expenditure². Keynes connects the multiplier of autonomous expenditures with the "Marginal Propensity to Consume (MPC). As he states there is a close functional link between the consumption and the current income and they are connected with the marginal propensity to consume $(C_t = a + b \times Y_{dt})$. The marginal propensity

² Keynes borrowed the idea of multiplier from Richard Ferdinand Kahn (1905-1985). In his work "The Relation of Home Investment to Unemployment" Kahn connected the growth of investment with the employment with the multiplier mechanism (Кейнс, 2008, p.177.)

the consume is derived from the “Psychological Law” by Keynes and defines that as income increases consumption reduces, the savings increase and this attitude is stable.

Accordingly, Keynes’s theory is based on two basic hypotheses, First – the current income is the most important determining factor of consumption, the income is considered as the exogenous factor; Second – the link between the current income and consumption is defined by the “Psychological Law”. Accordingly to these two hypotheses the marginal propensity to consume from the current income is zero and one ($0 < b < 1$) and hypothesis, the average propensity to consume (APC) decreases with the income growth (Блауг, М. 1994:p.193). In the Keynesian approach the hypothesis of “Effective Demand” holds a core place, according to which the balance is reached by the changes of the factors affecting on the effective demand and not by the flexible changes of price, and the reason of the incomplete employment on the goods and service market is insufficient effective demand. The mentioned viewpoint drives us to the fact that the current income and consumption depend on the effective demand and represent the mutual determinant factors in the dynamic economy. In the classical approach the flexible change of prices and wages provides the conditions of full employment and the potential level of income, on the basis of which the classical theory doesn’t consider the insufficient effective demand as an important factor.

The consumption theory formulated by Keynes (The Absolute Income Theory) has been a subject of judgment for many times by various economists, (Kuznets, S, Goldsman, R, Ando, A. and others), though it has not been rejected or proved yet. The reason of the different viewpoints was the significance of various factors and circumstances, particularly, income disparity, and the existence of different marginal propensity to consume in the society, the fact that the behavior of firms doesn’t subject to the basic psychological law and it is also possible that the marginal propensity to consume and accordingly, the multiplier would be a variable and not constants. Under in such circumstances it could not be the determining factor or economic behavior and economic instability. The discovery of Simon Smith Kuznets according to which it is empirically proved that in the long run the average propensity to consume is a stable constant, should be considered as one of the starting points of the new wave of the criticism of the Keynesian consumption theory and neoclassical counterrevolution. This situation is called as “Kuznets Paradox” (Kuznets, 1946, pp. 116-117). According to the post-Keynesian version where optimistic and pessimistic attitudes towards the future in the motives of the implementation of savings play an important role, the link between the long and short-term periods can be explained as follows: as the future is uncertain, in the short run with the precautionary motive people increase savings, accordingly, the average propensity to consume decreases. In the long run when the income becomes stable, it returns to stable savings rate expressed with the long-term average prosperity to consume and represent as the stable constant (Тарасевич, 2006, pp. 54-55).

James Stemble Duesenberry with his relative income theory tried to explain the behavior of households with a new approach, by which human decision about the consumption and savings is mainly based on the ratio of his/her income with others than on the standard of living as current incomes (Duesenberry, 1949). How much a person consumes it depends on his/her share in the “cake” of total incomes. On the other hand, the consumption depends not only on the level of absolute and relative incomes but also on the level of consumption of previous period. Duesenberry explains: after a customer develops habits, it is difficult to reject it. Hence the fluctuations of income has an ambiguous impact on the level of consumption. Some habits of customers are developing under the conditions of high income which they couldn’t refuse despite the decline in income. This effect can be described with the following function of consumption:

$$\frac{C_t}{Y_{dt}} = a + b \frac{Y_{d,t}}{Y_{max,t}} \Rightarrow C_t = aY_{d,t} + \frac{b}{Y_{max,t}} Y_{d,t}^2$$
 where $Y_{max,t}$ is the maximum values of income until the current period. Neoclassical theory isn’t trying to connect the functions of long-term and short-term consumption, it also implies the criticism of the current income itself as the most important factor affecting on consumption and is based on the own research method of consumption theory. Neoclassical concepts are based on consumer behavior and the theory of percentage by Irving Fisher. According to this theory the households make decisions about the consumption over the entire life - cycle on the basis of the preference of any given moment of time over any subsequent period (Fisher, 1974). Also the incomes received over the entire life-cycle are not less than the consumption implemented which we can indicate in the following way:

$$C_0 + \sum_{t=1}^t \frac{C_t}{(1+r)^t} + \sum_{t=0}^t \frac{Y_t}{(1+r)^t} = \theta \Rightarrow C_0 = c\theta \Rightarrow C_{t,0} = c\theta_t \tag{1}$$

According to the life-cycle hypothese of consumption by Franco Modigliani (1918- 2003) the individuals are trying to maintain the consumption on the equal level over the entire life-cycle, hence the income received over the entire life-cycle is divided into three components: The current income (Y_t) expected income $Y_{\theta,t}$ and

property (A_t) (Modigliani, 1986). According to the theory, the consumption is defined by this three basic components: $C_t = a_1 Y_t + a_1 Y_{\theta,t} + a_2 A_{t-1}$. If we transform this function, its specification can be done as follow:

$$C_t = a_1 Y_t + a_1 Y_{\theta,t} + a_2 A_{t-1}, Y_e = \beta Y_t \Rightarrow C_t = (a_1 + a_1) Y_t + a_2 A_{t-1} \Rightarrow C_t = a_1 Y_t + a_2 A_{t-1} \Rightarrow C_t = a_1 Y_t + (a_2 - a_1) Y_{t-1} + (1 - a_2) C_{t-1}$$

Milton Friedman put forward a theory by which the human consumption is stable and is not dependent on the changes of current incomes (Friedman, 1957). An individual takes out a loan to compensate his/her shortage of money and he/she manages to increase income with the increase of savings. The permanent income hypotheses by Milton Friedman proves that the consumption of households depends on the current and expected income received as a result of labor and property as well:

$$C_t = c Y_{p,t} \Rightarrow C_t = \gamma c Y_t + (1 - \gamma) C_{t-1} \text{ where,} \tag{2}$$

$$Y_{p,t} = \gamma Y_t + \gamma(1 - \gamma) Y_{t+1} + \gamma(1 - \gamma)^2 Y_{t-1} \dots = \gamma \sum_{t=0}^{\infty} (1 - \gamma)^t Y_t$$

According to the thesis of the stability of consumption investments are unable to have a multiplying impact on the consumption. It questions the Keynesian version of economic crisis and the idea of regulation of macro – proportions, the level of demand and work activity by the state, The difference between the concepts of life-cycle and permanent income is that the permanent income hypotheses aggregately analyzes the current and expected incomes received from the property and human capital and it subjects the problem of customer problem from the side of households. It lays upon the assumption that the life goes to infinitely. One of the important ideas of the permanent income hypotheses is that the permanent income is less sensitive towards the conjectural fluctuation than the current income which is somehow anti-crisis “built-in” stabilizer for the economy. The basic difference between the current and permanent income is the so-called “temporary income” which provides the equalization of consumption rate during a given time interval.

The life-cycle theory and the permanent income hypotheses explain the Kuznets paradox. The first one implies that the displacement of the short-term consumption function occurs at the expense of the growth of property, also in the long run the property growth and current income growth are characterized by the predictable dynamics. As a result in the long run the ratio of property sector to the current incomes is stable which explains the stability factor of the average propensity to consume. The second theory states that the short-term consumption function is the fiction caused by the “temporary income”. Because the permanent income is more stable quantity than the current income.

The life-cycle theory and the permanent income hypotheses are based on the assumptions that the households are truly aware on the expected interest rate and labor income. According to the permanent income hypotheses individuals can benefit with the adapt expectations, in this case they are oriented by the certain time horizon. As Robert Ernest “Bob” Hall states the households make decisions about the expected interest rate and labor income under the conditions of indefiniteness (Hall, 1978). Indefiniteness towards the labor income and interest rate leads us to the indefiniteness of the future consumption costs and accordingly, to the indefiniteness of benefits of future consumption. The latest indicates that in the initial period the households

cannot define the quantity of all consumptions $(\sum C_t)$, so they are guided by the rational expectations. Particularly, based on the information they have the households constantly review own decisions towards the consumption of future period. Hall’s theory is also based on the theory of consumer behavior by Fisher shown

in the following equation12: $C_{t+1} = \rho C_t + \varepsilon_{t+1}$. Hall assumed that random changes in consumption is a result of revaluation of future incomes and accordingly, only new information affecting on the permanent income can impact on the current consumption and the factors that affect on the permanent incomes are equally distributed random quantities due to which the consumption dynamic is characterized by the process of “random walk” type. Despite the fact that the “random walk hypotheses” of consumption is the generalization of permanent income hypotheses under the indefiniteness conditions, the mentioned theory totally rejected the methodology on the basis of which the construction on consumption function had been taking place in the 50-70s. In his work in 1978 according to the model made on the basis of the data of 1948-1978 at the example of USA, Hall proved that it is impossible to forecast the subsequent period with the quantities of the previous period.

In Halls’ test Marjorie A. Flavin paid attention to the fact that on the right side of equations C_t and Y_t components didn’t participate in. In his opinion the dynamic equation of consumption should have been analyzed which examines the impact of income change on consumption change (Flavin, 1981). In Flavin’s opinion, it was necessary to clarify the specification of Hall’s equation, particularly, the current income should be analyzed as an endogenous factor. In the mentioned model the disposable income was considered as a stationary process toward the trend and the Flavin’s test is as follows (Flavin, 1981, p.998):

$$\begin{cases} \Delta C_t = \gamma + \phi_1 \Delta Y_t + \phi_2 \Delta Y_{t-1} + \theta \varepsilon_{t+1} + e_{t+1} \\ Y_{t+1} = a_0 + a_1 Y_t + a_2 Y_{t-1} + \varepsilon_{t+1} \end{cases} \quad (3)$$

If ϕ_1 and ϕ_2 parameters are important than it turns out that the current consumption reacts more to the past and current changes of income than it is proved by the random walk hypothesis. This hypothesis is called as the “excess sensitivity” hypothesis. According to his hypothesis the consumption reacts not only to the unexpected changes of income but to the expected changes forecasted earlier.

In his work Angus Stewart Deaton analyzed the time series of macroeconomic model of consumption as the stationary time series towards the difference (Ananiashvili, 2002). According to the mentioned model the consumption is more characterized by fluctuations in comparison to the stationary current income, whereas towards the trend under stationary current income conditions the consumption is less characterized by fluctuations in comparison to the current income. This hypothesis is called the excess volatility hypothesis. Though in Deaton’s viewpoint the paradox analyzed has an explanation. If the consumer behavior is characterized by the random walk process, the consumption change will coincide with the permanent income shock which means that the permanent income is not necessary to be characterized by fewer fluctuations towards the current income. As Deaton states the reasons of resistance of “Excess Sensitivity” And “Excess Volatility” hypotheses are the factors not considered in the model which contain the information about the income received in the future.

The work by John Young Campbell and Nicholas Gregory Mankiw is important to examine the permanent income hypothese where two alternative hypotheses were compared; first consumption theory is defined by the changes of the current income, the second consumption change is defined in accordance with the “random walk hypothese” (Hall, 1978). The mentioned model is as follows: $\Delta C_t = \lambda \Delta Y_t + (1 - \lambda) e_t$.

For the model identification the two-stage least squares method was used with the instrumental variables where the instrumental variable is lag meanings of the current consumption. According to the model the meaning of λ is equal to 0.5, as a result of the above-mentioned the null hypothesis indicating that the change of the current consumption was not defined by the current income was rejected, though the low importance of λ indicates that the permanent income hypotheses are important to define the dynamics of current consumption rate.

John Shea paid attention to the problem of identification of expected changes of the current income to examine the “random walk hypothesis.” For this reason he studied the contracts of employees where the issue of wage growth is indicated and also studied the regression between the growth rate of the current consumption and growth rate of changes of expected wage. According to the “random walk hypothesis” the coefficient that connects the mentioned variables should have been equal to zero, though Shea got 0.89 equal and the standard error was 0.46. Accordingly, Shea discovered statistically insignificant but quantitatively significant deviation from the “random walk hypothesis” (Flavin, 1981, p. 193).

According to the contemporary macroeconomic studies, the consumption theory based on the permanent income and random walk hypothese are criticized in two ways: Firstly, it could not explain many important factors affecting on the consumption. Secondly –importance of various factors that are not considered in the mentioned theory weakens the role of permanent income. Concerning this problem the phenomenon of savings implemented with the motive for caution, problem of limited liquidity, deviation from the full optimization of the system etc. are of vital importance.

The problem of savings implemented with the motive of caution is directly connected with the indetermination problem of the future. Under the conditions of the indetermination of the future people save more if the risk of the income reduction increases. In the model of Hall the mentioned fact is not considered due to the use of profit function of square consumption, as a result in the model of Hall customers are neutral towards the risk of income changes. In the work of Deaton it is shown that cautious customers will start consuming from the lower level, but it will have more upward trend than it is characterized by the permanent income and random walk hypotheses (Deaton, 1992). The work of Christopher D. Carroll is important which shows that the savings implemented with the motive for caution increase the expected consumption. According to Carroll the motive for caution is pretty strong and in case if the discount rate is high, the households do not take out a loan (Carroll, 1992). The reason is that due to the risk of incomes of future period the households are trying to avoid the low consumption in the future which could be caused by taking out a loan in the current period.

The problem of limitations of liquidity lies upon the fact that it forces a customer to be satisfied with the low consumption level than it would have been possible if such limitations were absent. In his work Stephen P. Zeldes suggested more strict condition concerning this issue, accordingly, if the limitation of liquidity does not occur in the current period, only the fact that it can occur ever in the future it reduces the current consumption (Zeldes, 1989).

As we saw in both cases with the motive for caution of savings and expectation of the limitation of liquidity the reduction of expected income pushes the households to implement the so-called “Buffer Savings” (Carroll, 1992). The basic conclusion of these concepts are that customers with the means of little buffer property manage to insure risks of future income and the consumption is basically defined by the level of its disposable income.

Shea’s study concerning the problem of limitation of liquidity is important. Shea built models for groups with high and low liquidity assets and for the households with low income, for groups whose salary is expected to decrease and increase (Shea,1995). Studies showed that the limitation of liquidity as a determining factor of permanent income was not confirmed.

According to the dynamic disagreement concept of consumption by David Isaac Laibson under the indetermination conditions the households are guided by small time horizons and implement small savings for leveling the fluctuations of the current income (Laibson, 1997). In the short run their behavior is more characterized by the theory of permanent income. In the long run the consumer behavior is characterized by more prudence.

IV. CONCLUSION

Despite the fact that a vast majority of factors impact on consumption, the permanent income and random walk hypotheses could not be rejected. If we include a risk insurance it will expand the permanent income and random walk hypotheses, also the limitation of liquidity and the problem of deviation from the full optimization of the system with absolute income, relative income, and life-cycle hypotheses can be analyzed as private cases of random walk hypotheses with the means of extension of significance of some limitations. Despite the fact that in the contemporary macroeconomic theory the permanent income theory is not rejected the unified theory of consumption cannot be established.

A number of factors influenced the decision-making process about the consumption by the society. Particularly, the current labor incomes, permanent incomes, incomes received from the property, the expected incomes, expectations concerning the income level in the future, various exogenous shocks, the savings level, unemployment level, inflation level etc. These decisions are made under some limited conditions such as: limitation in receiving liquidity, income inequality, incomplete interchangeable of consumer goods etc.

All the above-mentioned factors make it clear that in the process of implementation of budget and tax and monetary policy of the country it is important to do an in-depth analysis of the changes made in the consumption function and current situation as an important factor impacting on the macroeconomic processes of the country. Since the change of consumption function, decrease or/and the increase in consumer costs in most cases stimulate economic cycles which ultimately causes the violation of macroeconomic equilibrium.

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