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CONSUMPTION AND SAVINGS OF HOUSEHOLDERS: INCOME AND NON-INCOME FACTORS

The article is devoted to the factors determining the division of the disposable income of an economic subject to consumption and saving. Existing theories of savings have been summarized. Conditions for equilibrium economic entity on the definition of the size of the savings and his motivation have been determined. Revenue and non-revenue factors of formation of income fission proportions on consumption and saving have been allocated. Expediency to use of the concepts 'marginal utility of consumption' and 'marginal utility savings' has been proved.

Keywords: income, consumption, savings, revenue and non-revenue factors, marginal utility of consumption, marginal utility of savings

Income is a key category of economics since its inception. Mercantilists focused on the state revenue, which was received from foreign trade. Physiocrats investigated the sources of income and its distribution between the main social groups. The question of appropriation income, which was created by employees (surplus value), by capitalists is the key provision of Marxist economic theory. Primary distribution of income between different groups of economic agents and bases its redistribution is the subject of study of many social justice theories.

However, over time the main aspect of the problem is transferred from appropriation of income to the formation of proportions of its economic agent use immediately after the completion of the procedures division and redistribution. And although the first proposition of significant influence dividing income on consumption and savings is found in the economists of the eighteenth-nineteenth centuries, the most complete form of these issues are reflected in the theory of general equilibrium by J.M. Keynes [1]. However, the next studies both supporters of Keynesian and neoclassical concepts are focused on the impact of the income division on consumption and savings macroeconomic balance. Development of the theory, which describes the decision of individual economic actors about the division of disposable income on consumption and saving, is pending its completion.

The aim of our research is to elucidate the mechanism of the economic actor decision-making on the use of income not for current consumption but for savings, and the factors influencing this decision.

In economic concepts "consumption" and "savings" are inextricably linked to the concept of "disposable income". In our view, the relationship between these categories, on the one hand, is dialectical, but on the other hand - motivational and allocational. Dialectics lies primarily in the fact that consumption and savings are components of the same income, and therefore depend on it (size, structure, source of formation, dynamics, etc.). Moreover, most of today's savings over time are also consumption, which gives rise to some researchers consider saving as just time delayed consumption. This makes the consumption and savings only. But at the same time we can talk about the fight between them as contradictions. Indeed, in every moment, income is limited, so any consumed part of it excludes the possibility to use it for savings, and vice versa.

Do not forget about another law of dialectics: the shift quantity into quality. The changing of income amounts changes the ratio of consumption and savings not only evolutionary, but may also have some qualitative changes (bifurcation point), without which to explain the significant changes into these proportions would be impossible.

As a rule, in economic theory allocation is described as the distribution of limited resources to achieve certain goals [2, c.24]. So motivational and allocational relationship between income, consumption and savings can be interpreted as limited distribution of income for purposes of consumption and savings, which are due to certain reasons. This understanding of communication provides research of motives that guide economic entity, choosing a particular ratio of current consumption and savings.

Having armed with these methodological principles we turn to study the history of the formation of views on consumption and savings, as well as the mechanism of income separation for these components.

Formation of understanding the categories of "consumption" and "savings" took place in parallel with the development of "income model". The starting point determining income and its distribution can be considered the work by N.W. Senior "Basic Principles of Political Economy" (1836) and the model of intertemporal choice by I. Fischer, described in his work "The theory of interest" (1930) [3]. It

means that consumers face the intertemporal budget constraints, when divide the disposable income on present and future consumption.

Later J.M. Keynes developed an alternative model of absolute income ("General Theory of Employment, Interest and Money",1936) [1] and his followers J. Duesenberry (model relative income in "Income, savings and consumer behavior theory" (1949) [4] and F. Modigliani (lifecycle model, launched in 1954 and detailed in his Nobel lecture in 1986 "The life cycle of personal savings and wealth of nations" in 1986) [5, 6] developed the theory which basis was the idea of intertemporal choice by I. Fisher. According to I. Fischer dependent consumption on income determined not only by the current value of income, but the income expected in the future.

The basic premise of the life cycle hypothesis argues that people trying to smooth consumption over their personal lives correlates their consumption with the expected income for life. With a view to keeping consumption in old age a person must make savings in the course of the active life phase.

The model by M. Friedman, founder of monetarism, Nobel Prize 1976 is one of the most modern and most practical models of permanent income saving. M. Friedman [7] bases on F. Modigliani's ideas (to maintain a stable level of consumption lifelong desire) and is common positions with theory of intertemporal consumer choice by I. Fisher.

Permanent income hypothesis by M. Friedman is based on the recognition that the formation of consumer spending is not due to the current (by J.M. Keynes), and due to the continuous (permanent) income, to provide for a life more or less sustainable consumption.

Almost all of these theories come from the fact that consumption plays a leading role in the pair "consumption-savings". The maximization of total consumption is recognized as root causes of savings in the short term. Today there are quite common the following motivational factors of savings in economics: caution; the purpose of the covenant; pent-up demand. These motifs have certain parallels with the basic economic theories of income: pension provision (lies in determining the life cycle by F. Modigliani); uncertainty about income and date of

death: unused stock to death by excessive better life (relative income model by J. Duesenberry); inheritance (permanent income model by M. Friedman).

На наш погляд, основні теорії щодо суті та мотивів заощаджень можна об'єднати у три групи: кількісні, мотиваційні та інвестиційні (табл. 1)

In our view, the basic theory merits of saving motives can be grouped into three groups: quantitative, motivation and investment (Table 1).

Table 1

Theories of saving

Name of group	Typical representatives	Sense of saving
quantitative	J.M. Keynes, N. Kaldor [8], P. Sraffa [9]	Savings is the income remainder after reimbursement consumption
motivation	W.F Sharpe [10], J.W. Lintner [11]	Savings is a delayed consumption
investment	N.W. Senior	Savings is a not consumed income; its industrial use in the future will give better results than immediate consumption

Interpretation of savings as the excess of income over consumption by J.M. Keynes has now become a textbook. This definition is used in the System of National Accounts adopted by the United Nations [12]. This approach we called quantitative because it gives possibility to calculate value of savings. It opposes the consumption and savings, emphasizing the difference in the implementation of these processes. There is another approach, which we regard as motivation. In particular, it is submitted by William Sharp, who defines savings as "deferred consumption". It emphasizes the unity of consumption and savings because both parts of income meet the needs, but with a gap in time.

N. Senior, author of the subjective psychological theory of "detention" ("containment") occupies the special place in the development of the savings theory. Without using the term "savings" in his theory, he actually refers to this process. According to N. Senior capitalist rejects consumption enjoyment, turning part of his income in the means of production. According to N. Senior, the current

consumption is more valuable than future consumption. Therefore, the rejection of the capitalist current consumption is seen as a victim, which leads to rewards in the form of profit in the future. This interpretation has signs savings investments. Although named position was criticized by K. Marx [13, p.235-240], in our opinion, this was one of the first attempts to understand the essence of savings. In addition, understanding the differences in the values of current and future benefits was the basis for the development of the discounted cash flows theory.

Each of these definitions has the right to exist because it reflects one aspect of savings. However, they do not show the essence of the rejection current consumption for the sake of savings income. So we try to look at the process from the standpoint of motivational and allocational approach.

Using the method of unity of historical and logical, it is worth noting that the championship in a couple of "consumption-savings" belongs to consumption. Firstly, of course, consumption takes the most share of income (and sometimes completely absorbing it). It determines a minimum required level of human consumption to maintain its existence and reproduction he or she as a bio-social being. In science it is called autonomous consumption. So much of the income that can serve as a savings is possible only, when there is part of income, which is not used for consumption (by K. Marx - additional product).

It should be noted that the category of "consumption" always acts as a flow indicator and its value is measured with the number of goods consumed over a period of time. Category "savings" is twofold: on the one hand, it is accumulated over a period of time (flow indicator), on the other hand, it can be described as the reserve indicator (savings at the beginning or end of period).

It means that correlate consumption and savings is necessary in terms of flow. And this criterion determines the relative independence of savings to consumption.

Having some income and cleanse it from taxes, transfers and other compulsory payments (disposable income), households primarily cover the need for autonomous consumption. Admittedly autonomous consumption is a certain amount of consumption that does not depend on income and form of the basis of the economic entity existence. Since losing any part of autonomous consumption

consumer loses a chance to exist, it can be argued that the marginal utility of each unit of income used to autonomous consumption remains unchanged within all its size. If the disposable income is greater than autonomous consumption, each additional not consumed unit of it has less utility than the last.

It is correct that savings occurs when saving marginal utility (MUs) is greater than marginal utility of current consumption (MUc) and in equilibrium economic entity finds itself in the event that the marginal utility of current consumption equated with saving marginal utility (Fig. 1).

Equilibrium economic entity:
$MUc = MUs$

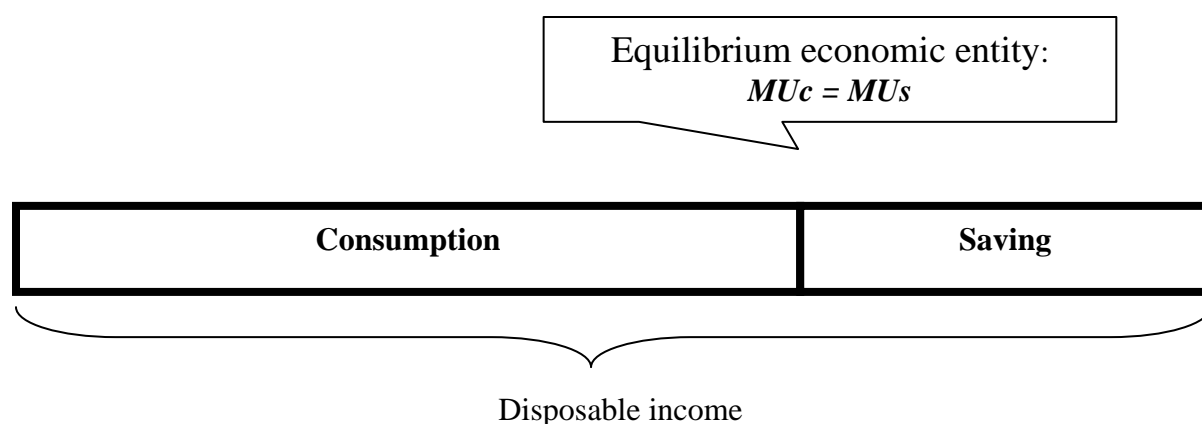| Consumption	Saving

Disposable income

Fig. 1. Consumer equilibrium in disposable income division

Graphic representation of the mechanism for achieving economic equilibrium on the subject of the disposable income division for consumption and savings shown in Fig. 2. As seen from it, equilibrium is the division of income achieved in the point of curves intersection of the consumption and saving marginal utility. If for some reason the division does not equilibrium, the entity who behaves rationally will change the aspect ratio in favor of the income form use that brings greater increase total utility. In an equilibrium total utility is maximized within disposable income. This balance is stable because the disequilibrium system reacts to its recovery.

Fig. 2 shows a static model of achieving equilibrium in which all ascending parameters (income, consumer standards, consumer preferences, overall economic environment) remain unchanged. Let analyse how the system will respond to changing certain parameters.
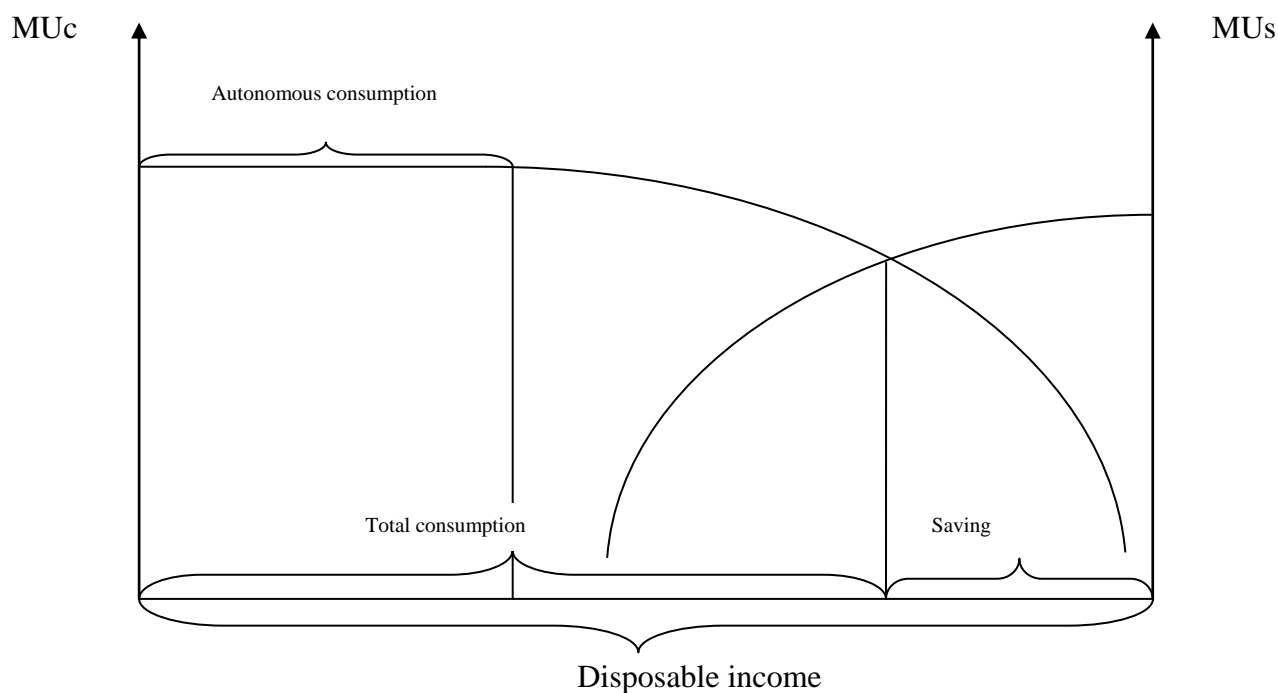
Fig.2. Model of achieving equilibrium in disposable income division

In our opinion, all factors that influence the division ratio of income to consumption and savings can be divided into income and non-income factors. Fig. 3 shows the change in the balance of the economic entity under the influence of increasing income and income only. This situation describes the basic psychological law by J.M. Keynes. Indeed, if income increases, consumption increases too, but it is growing more slowly than income increases. This is due to the fact that consumption is less elastic relative disposable income than savings. However, we believe this statement cannot be taken as absolute law. J.M. Keynes' law can operate only, when the intersection point is located at a considerable distance from the boundary of the autonomous consumption. Indeed, the closer to the limits of autonomous consumption, the greater the elasticity of consumption in relation to income. And in this case there is no reason to believe that it will be less than the elasticity of savings, depending on income.

Numerous attempts to empirically test the Keynes' law demonstrated that faster growth of savings relative to income statistically is not confirmed. This phenomenon in economics is called "Kuznets puzzle". It should be noted that the actual dynamics of consumption and savings feels the impact factor of not only income but also numerous not-income factors. They in particular include changing

living standards (income growth could lead to a transfer subject to particular social group, where there are higher consumer standards), the changing needs of the consumer under the influence, for example, advertising, scientific and technological advances, changes in external environment that increases or decreases the value of savings, and so on.
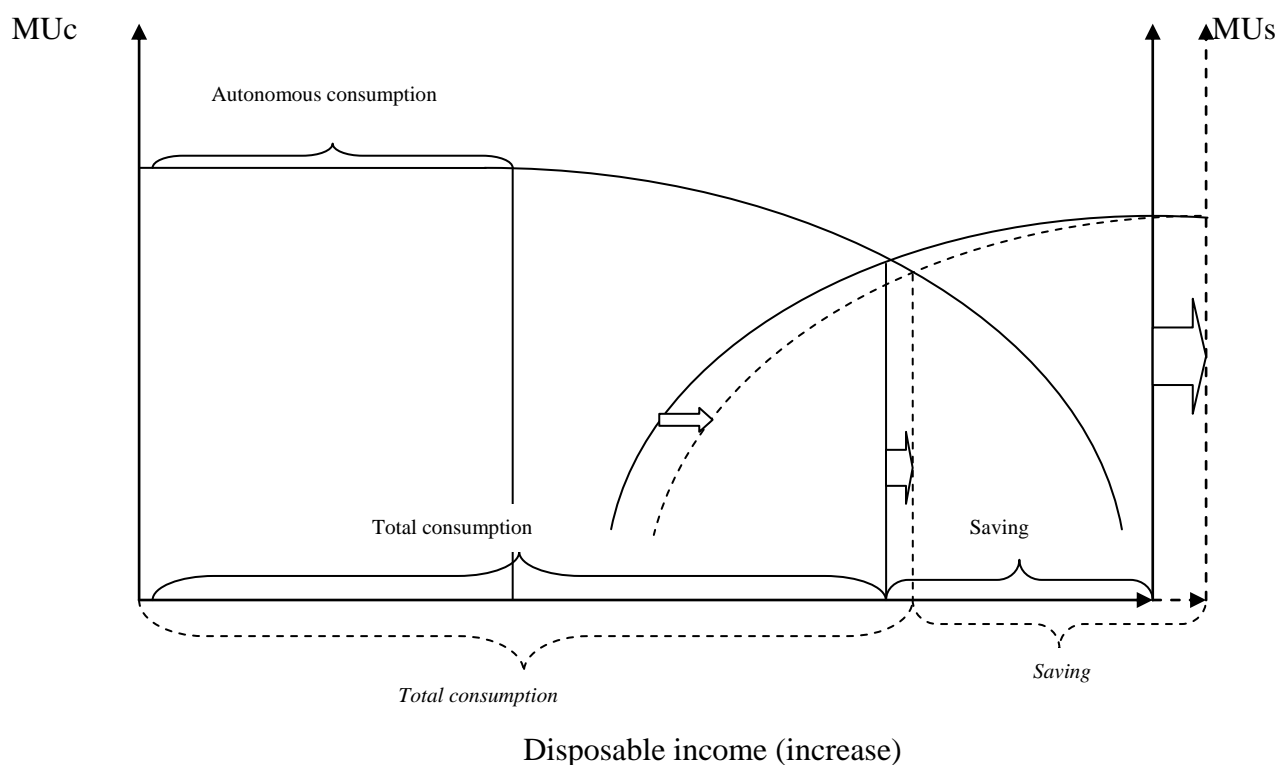

Fig.3. Influence of income increase on consumer equilibrium

If in condition of the income changing the slope of consumption and savings marginal utility curves remains unchanged and they only move on the chart left or right, the effect of non-income factors, on the contrary, changing the slope of the curve can move them up or down, more or less autonomous consumption, and so on. Understanding the mechanism of influence non-income factors can create the necessary theoretical basis for process control formation ratio of consumption and savings, which is an important component of state regulation of macroeconomic stability.

Рішення суб'єктів господарювання про заощадження частини наявного доходу є результатом складної взаємодії внутрішньої мотивації та зовнішніх стимулів. У табл. 2 представлені основні пара мотивів та стимулів, які

впливають на домашні господарства і визначають їх відмову від поточного споживання заради заощадження частини наявного доходу.

Entities' decisions about savings of disposable income part is the result of a complex interaction of internal motivation and external stimuli. Table 2 shows the main steam motives and incentives that affect households and determine their rejection of current consumption for savings of disposable income.

Table 2

Motives and stimuli of household saving

Motives	Stimuli
The desire for stability, creation of insurance fund	The volatility and unpredictability of the environment, risks reducing current income
Improving consumption in the future	Value of current income and prices of durable goods
Averaging consumption for the period	Frequency of revenue
The desire to earn additional income	Value of return on bank deposits or other forms of investment and inflation

It is easy to see that the basis of all these motives for saving is the natural desire of households to ensure at least a stable (and better - growing) consumption. These motives are always targeted guidance and reflect the group of economic actors - maximizing utility, to raise the needs. Last to be understood widely, including at least all levels of the pyramid needs by Maslow.

It should be emphasized that depending on the state of the environment (stimuli) some of these reasons may not appear and some will be crucial in deciding savings. Therefore, stimuli can be regarded as *factors of awakening* of a motive. For example, economic instability, the threat of loss (partial or complete) income highlights the efforts for stability reasons as savings. Rising bank interest paid can make a decisive motive for savings efforts to earn additional income.

Таким чином, заощадження – це процес прийняття рішення економічним суб'єктом про відмову від поточного споживання частини наявного доходу на основі взаємодії внутрішніх мотивів та зовнішніх стимулів заради досягнення поставленої мети. Рівновага споживача досягається у випадку рівності граничної корисності споживання та граничної корисності заощаджень.

Фактична динаміка поділу наявного доходу визначається взаємодією доходних та недоходних факторів. Розуміння цієї взаємодії може бути підгрунтям для державного регулювання процесів споживання та заощадження з метою досягнення макроекономічної рівноваги.

Thus, savings is the process of decision-making of economic agents to abandon the current consumption of disposable income based on the interaction of internal motivation and external stimuli to achieve this goal. Consumer equilibrium is achieved equality of consumption and savings marginal utility. The actual separation dynamics determined by the interaction of disposable income and non-income factors. Understanding this interaction may be the basis for state regulation of consumption and savings to achieve macroeconomic balance.

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Статья посвящена исследованию фактором, определяющих деление располагаемого дохода экономического субъекта на потребление и сбережение. Обобщены существующие теории сбережений. Определены условия достижения равновесия экономического субъекта относительно определения размера сбережений и его мотивация. Выделены доходные и недоходные факторы формирования пропорции деления дохода на потребление и сбережение. Обоснована целесообразность использования понятий «предельная полезность потребления» и «предельная полезность сбережений».

Ключевые слова: доход, потребление, сбережения, доходные и недоходные факторы сбережений, предельная полезность потребления, предельная полезность сбережений

Стаття присвячена дослідженню чинників, що визначають поділ доходу, яким розпоряджається економічний суб'єкт, на споживання та заощадження. Узагальнені існуючі теорії заощаджень. З'ясовані умови досягнення рівноваги економічного суб'єкта щодо визначення розміру заощаджень та його мотивація. Виділені доходні та недоходні чинники формування пропорції поділу доходу на споживання та заощадження. Обґрунтована доцільність використання понять «гранична корисність споживання» та «гранична корисність заощаджень».

Ключові слова: дохід, споживання, заощадження, доходні та недоходні чинники заощаджень, гранична корисність споживання, гранична корисність заощаджень