Factor analysis of personal consumption in a modern welfare economy

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Abstract. The content and the structure of a personal consumption is an important factor determining the dynamics of economic and social indicators, since consumer expenditure accounts for more than half of total expenditures and determines the amount of investment into the human capital that, in the conditions of a postindustrial society, plays a decisive role in shaping sustainable economic growth rates and realizing a socially oriented national development strategy. The article analyses the peculiarities of the personal consumption process in the conditions of the modern welfare economy and its determinants, there is made an attempt to systematize and identify the interrelations between them, which will help in developing an objective forecast of GDP dynamics, on the basis of which state programs for social and economic development are formed.

1. Introduction
Consumer expenditure has a direct impact on structural, reproductive and interregional proportions in the economy, on the behavior of the industrial markets, employment dynamics and inflation that is responsible for the development of government-directed control measures aimed at using their potential as part of a long-term concept of socioeconomic development.

Consumer expenditure has traditionally been the focus of alternative economic schools and trends. According to the neo-conservative tradition, within the framework of which consumer behavior was traditionally studied, it was interpreted exclusively from the point of view of rationality, while the lending interest or the level of income were considered as key factors in consumer choice.

Is it possible today to use this approach to explain the real process of consumption? Does it take into account the individualization and uncertainty of the modern economy? Researchers have shown that in the conditions of welfare economic the qualitatively new determining consumer choice factors have been generated. The goals of our research paper are to reveal the characteristics of modern consumption process highlighting their determinants and to elucidate of the trends and the nature of their influences. This will help to determine the directions of transformation of the existing consumption theory for its adaptation to reality.

Over the last three to four decades, the study of consumption has progressed enormously. While many scholars have contributed to this progress, Angus Deaton stands out. Deaton demonstrated that the existing systems were more narrowly constructed than had previously been thought; they forced consumer behavior into a straitjacket of assumptions that was too restrictive to realistically reflect
actual consumer choice. [1] However, it should be recognized that in the conditions of the welfare economy, qualitatively new factors are emerging that determine the consumer choice.

2. Theory

In the conditions of innovative economy, the market is filled with goods and services, different in their properties and characteristics. Consumers, making a choice, relate the opportunities and benefits that the use of acquired goods can bring with their ideal representation of the consumer process, consisting in a system of requirements and ideas about the purchase of goods and the results of their application to meet the needs of different types.

Consumption activities most directly address living standard (or lifestyle) goals, which have to do with satisfying basic needs and getting pleasure through the use of goods and services. But people are also often interested in goals such as self-realization, fairness, freedom, participation, social relations, and ecological balance [2]. One of the main achievements of Angus Deaton is that he showed the value of using consumption and expenditure data to analyze welfare of the poor, and identified shortcomings when comparing living standards across time and place. [3]

Each consumer as a result of consumption tends to enjoy and have positive emotions, regardless of whether it is planned or accidental, thoughtlessly purchased goods. In figure 1 there is a cell chart of an algorithm for making a consumer choice.

The definitions meanings on Figure 1:
- The standard of consumption – the kit of imaginations and requirements of ideal consumption model of individ.
- Non-price characteristics of the goods include all the goods properties except the price (quality, innovativeness, prestigiousness, etc.
- The price of the good is the value of goods in monetary terms.
- The properties of goods include all characteristics and features implying consumption.
- Budgetary opportunities indicate the value of consumer available funds.
- Changing the amount of available funds imply an opportunity to get more monetary funds for purchasing.

Within the welfare economy, price is not the main factor that determines the choice. An important effect of the extended preference approach is to open research link-ages with the other social, behavioral, and biological sciences precluded by the narrow preference framework. [4]

A modern consumer wants and seeks to use those benefits that can bring him maximum satisfaction. Therefore, making his choice in favor of a particular good, he first of all relates his properties to the image of the ideal consumption (the standard) to which he tends, as if this is a planned and thought-out purchase, and making a spontaneous acquisition. Further, the price of goods is corresponded with the budgetary capabilities of a consumer.

If the properties of the goods do not coincide with the requirements of the consumer to them, he considers the possibility of changing them. Typically, this manifests itself in a conversation with the seller that does not satisfy the individual in the product or service and whether the seller or producer can help and correct it. If the consumer gets it right, then he returns to the beginning of the process and compares the updated properties of goods with those that he wants to receive. If the properties of the goods are not subjected to change, the consumer, in order to maximize his satisfaction, revises his personal requirements for the goods, as if guarding himself against dissatisfaction from the use of goods or services that do not correspond to his standard.

By changing the ideal image of the good, the consumer proceeds to the selection process, starting with the first step in comparing his non-price characteristics with his requirements. This cycle continues until the named parameters match the sufficient degree to meet the consumer's needs. As soon as such a coincidence happens, the next stage of the selection process comes: the comparison of price and budget possibilities. If it turns out that the consumer has enough money (taking into account loans and other sources of income) to purchase the favor, the choice is made. If the price does not
match the size of the limited means, then the consumer proceeds to try to reduce it, he bargains on price. Having achieved the price change, as a rule, a person again thinks about whether he needs this benefit, returning according to our scheme to the first action. If the price cannot be changed, the individual analyzes the possibility of changing the amount of money (new additional earnings or loans, forgotten savings or an unrecovered debt, etc.). If there are new sources for expanding the budget, then the process begins anew with a decision on the utility of the good. If one cannot change income restrictions, then again, in order to increase the level of satisfaction, the consumer will reconsider his standard of consumption.

**Fig. 1.** Algorithm of consumer choice dealing.

Thus, consumer choice is a complex multi-stage decision-making process about the need and the possibility of acquiring and using the good. It can be instant, short-term or long-term. Everything depends on the circumstances of its dealing, the properties of the goods and the personal characteristics of the consumer. In our opinion, all factors that determine this or that consumer choice are divided into two types: the characteristics of the product or service and the characteristics of the consumer.

The characteristics of a product or service are:
the price of the goods - the established barrier in the conditions of the market for the acquisition of the goods, sifting out consumers who do not deserve to receive useful properties;

As it was already noted, the neoclassical theory distinguishes this parameter as the only necessary characteristic of the goods for the consumer. Studies have shown that this is not the case, since there are other factors. However, in any case, the consumer correlates his ideas about what he wants with his income restriction, taking into account the possibility of changing it. In the conditions of the modern welfare economy, this stage of the consumer choice process is the last one after the approval of the goods for all other characteristics. Advance in social development leads to enhancements in the quality of life which are very difficult to quantify or reduce to monetary terms. These qualitative dimensions are linked to rising levels of education, greater social security provided by private and government-funded insurance programs, improved medical treatment and public health, new forms of entertainment, machines that reduce physical labour, and many other types of comfort and convenience. It is impossible to value in terms of price the impact on quality of life resulting from antibiotics, year-round access to a full range of fruits and vegetables from all over the world, email, the Internet, on-line education and training, social networking, global access to a free encyclopedia like Wikipedia, e-books, i-Pods, cell phones, ATMs, improvements in the quality of automobiles, and countless other social and technological innovations of the past few decades. [5]

• quality is a set of useful properties that allow satisfying certain material and spiritual needs;

Since A. Marshall's research till now property of goods, namely, quality of goods underwent strong change. Quality became more important than the price. [6]

We will consider economic goods limited in quantity, since in this aspect they are of the greatest interest. Depending on which group the good belongs to and what utility it brings, the consumer marks it for himself as desirable or not desired. This happens by correlating the declared properties of the goods with the identification of its qualitative side with the requirements that the consumer presents to them, taking into account the quantitative characteristics of the goods. In turn, the ideal or standard consumption model is formed in the mind of the consumer, based on its characteristics in interaction with the factors of influence on them. We will discuss them in more detail below, analyzing the second group of factors influencing the choice of the consumer.

• prestige is a set of properties that allow satisfying the needs to demonstrate their social and / or financial position to society, that is, to be accepted by society in the desired social status for the consumer;

Here we are not necessarily talking about an expensive good, but about the goods that will enable a consumer to gain a foothold in the desired social group, to be evaluated by it.

• terms of sale: assortment, convenience of the location of goods and layout of the store, convenience of the location of the sales point, convenience of the work schedule, types of payment system, quality of service and speed, appearance and level of communication skills of sellers, design, corporate identity, window dressing, office, after-sale service, additional service;

Each consumer differently refers to the parameters of this kind that depends on his personal characteristics, formed under the influence of external and internal factors. For example, people who were born in the 21st century are more demanding of the accompanying characteristics of goods because they live in the era of the market of abundant goods, in which producers struggle to attract effective demand for their products, and not vice versa, using tools of both price and non-price policy. Modern retirees of the elderly age, survived the budget gap of Soviet times, passed the war and other consumer hardship, are often not so demanding of the related services of goods. Their goal is to gain utility from the goods, and not from the process of its choice and acquisition. Accordingly, their perception of consumer choice standard does not include such kind of characteristics.

• presence of a choice (substitutes) is the existence on the market of the goods, capable to carry the same utility, different on the other characteristics;
If there are alternatives, the consumer will choose the one that will bring him maximum enjoyment. At the same time, if the goods have equivalent substitutes on the market, the consumer, as a rule, makes great demands on the given product or service, not being afraid to remain not satisfied.

- the need to purchase complementary goods (additives) and their characteristics;
- The presence of such necessity will force the consumer to consider all the accompanying characteristics of complementary goods in comparison with their requirements (standard).
- accessibility, quality and reliability of information on the goods and their characteristics;
- In the conditions of innovative economy, this criterion is crucial in the process of consumption in connection with the regular access to the market of goods, the existence and benefit of which the consumer has no idea. In addition, the dissemination of information is the reception of the competition of producers of non-innovative products, but the usual products, including the holding of social advertising and PR campaigns. But there is a problem of the quality of any kind of information, the way it is served, which can both have a positive effect on consumption, and negatively for the households and firms.
- innovation is a degree of novelty of goods.

Innovation products are perceived differently by different groups of people. Some acquire them unconditionally, others will wait for approbation, feedbacks and evaluation and then they decide on the desirability of these goods (including them and their characteristics in the personal system of the consumption standard).

Depending on the country of production goods can be imported or domestic. Differentiation of demand for imported goods is due to a number of internal and external environment factors. There can be identified such external determinants as inflation rate, exchange rate, social guarantees, credit availability. Internal factors influencing consumer behavior of households are socio-economic and demographic characteristics of a household such as the number of household members, their socio-economic status, employment, income, place of residence. [7]

Summing up the analysis of the characteristics of goods and services as factors of influence on the choice of the consumer, we conclude that any good is a set of many essential and related properties that are valuable to each consumer in different ways depending on his personal and individual qualities. Let us consider them in more detail.

To the characteristics of the consumer, influencing the choice of the consumer and his demand, we attributed the following:
- the level of income and the possibility of changing it (obtaining credits, loans, changes in sources of stable income: wages, income from real estate and others, the possibility of accidental earnings);
- the standard of consumption, to which the consumer seeks is the totality of the consumer's requirements for the goods and the properties that distinguish them (essentially similar to the needs system). Compliance with these ideas about the goods or service and the process of their acquisition and use in case of their consumption provide the individual with maximum satisfaction.

On figure 2 there is shown the direction of correlation of product characteristics to the characteristics of the consumer. In the event that they coincide in a sufficient degree to satisfy the consumer, the choice of the good takes place.

Arrows on figure 2 show the directions of the matching verification of the consumers’ and goods’ characteristics at their compliance, that is the main action in the consumption process. The vertical arrow is as a positive result of such verification, in this case the consumer choice is made.

If within the framework of the neoclassical theory of consumption income and needs are unchanged and clearly defined parameters, then under the conditions of the modern welfare economy they can change and depend on many factors both external and internal from the point of view of the consumer.

**Fig. 2.** Consumer choice: matching the consumer characteristics and the characteristics of the good / service.
To internal factors of formation of the consumption standard we will refer those which are directly characterizing the personality of the consumer. Among them are sex, age, race, nationality, type of personality, psychological characteristics, occupation, education and lifestyle. External factors include factors that are not related to the nature of the consumer's personality, but indirectly affecting it. This environment (people surrounding the consumer - the family, friends, colleagues, members of various social groups in which an individual is or is seeking to enter, etc.), culture, political situation in the country, geographical affiliation (natural conditions).

Each of the above mentioned factors affects the formation of two important characteristics of the consumer: the level of income and the image of the consumption standard.

Figure 3 presents the scheme of factors of influence on a consumer choice and their interaction in the conditions of transformation of the system of economic relations. According to this scheme, there is an interaction of certain characteristics of the goods and the consumer. Arrows on figure 3 show the influence directions between different characteristics of goods/services and consumers. For example, external and internal factors have a decisive influence on the standard of consumption. Lines on figure 3 show the explaining content of some characteristics. For example, characteristics of consumers include the level of income and the standard of consumption.

**Fig. 3.** The directions of influences of some consumption characteristics and factors on the others
Proceeding from the peculiarities of the choice made by the consumer in the current economic conditions, let's present his portrait and compare it with the corresponding neoclassical interpretation. Studies have shown that we have a consumer who tends to meet his needs to the maximum (this coincides with neoclassicists). He tries to act rationally, with the maximum benefit and the least losses. But not always a consumer set is the optimum choice task.

The problem of acting 'rationally' in the face of uncertainty is not the problem of maximizing the actuarial value of anticipated gains, or minimizing the actuarial value of anticipated losses – if either of these is in any sense 'rational'; it is the problem of making the best use of incomplete information. [8].

Consumers are differentiated. They differ in their attitude towards goods, the process of consumption and the choice. These differences are not always of a purely economic nature, intersecting with psychological, social, cultural and other characteristics, without regard to which today we can not consider consumer choice.
Many purchases of goods or services are made by people not rationally. However, this does not mean that economic theory cannot explain these circumstances. If the consumer still made this particular choice, then, at that time, it was useful to him, regardless of what needs he satisfied - physical, social or psychological, and what he aspired to. The needs structure of a person can vary during different periods of his life. 

Thus, the main characteristic of a consumer in the conditions of an innovative economy is his needs and consumption motives, manifested in the desire for a certain standard of consumption. This is the effect of the transformation of consumption.

3. Conclusion
It turned out that the basis for the transformation of the theory of consumption is the differentiation of consumers and the breadth and diversity of the food market in a modern economy. In this connection, each stage of the consumption process is the consumer's relationship, taking into account his personal and individual characteristics to the benefits and their distinctive characteristics, depending on what the demand is formed and presented, a decision on buying is made and the utility is obtained, representing satisfaction of needs that is the main goal and incentive consumption.

Changing the priorities of social development predetermined the formation of new consumer values that are transformed under the influence of the institutional environment, socio-demographic processes and socio-cultural parameters. Official data does not reflect the totality of ethical, political, social, cultural, religious and other factors affecting the structure and direction of household expenditure, which hampers the development of an objective forecast of GDP dynamics, on the basis of which state programs for social and economic development are formed. This predetermines the need for further development of the forms and methods of controlling influence on them in order to realize the potential of consumer expenditure in the system of state regulation of the economy. A profound rethinking of the content and directions of the transformation of the consumption relations, characterized by high dynamism and multidirectional development is required.

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