Differences in consumer buying behaviour in consumer markets of the EU member states and Ukraine

Abstract

**Introduction.** Globalisation processes, which are actively developing worldwide, stipulate the expansion of the limits of goods markets. The range of consumer goods sold in EU member states and Ukraine is similar. However, demand for consumer goods is different by qualitative and technical characteristics, and price is not the same. This can be explained by different buying capacity of the population. An examination of both import and export commodity structure and consumer buying behaviour at European and domestic markets is the issue of utmost importance in terms of the implementation of the Association Agreement between the European Union and Ukraine and functioning of free trade area.

**Purpose.** The article aims to define the differences in consumer buying behaviour in consumer markets of the EU member states and Ukraine, explain the decisive role of personal income in determining consumer buying behaviour and construct a model of such behaviour across countries with regard to the basket of main goods and services.

**Methods.** To conduct the research, the authors use stepwise regression method with F-tests and pre-standardization of factors and resultant feature to construct the model of consumer buying behaviour at the consumer market.

**Results.** The authors of the article have conducted a scientific research of consumer behaviour and defined major approaches to consumer buying behaviour. The research provides a general model of differences in consumer buying behaviour in consumer markets of the EU member states and Ukraine, testifying to considerable dissimilarities in buying behaviour between them. The greatest fluctuations of demand for the main items relating to the basket of consumer goods are observed in terms of consumption of bread and cereals, fruits, clothing and footwear. The least fluctuations of consumer preferences are peculiar to meat, fish and seafood, as well as services relevant to hotel and restaurant business, culture and recreation.

**Conclusions.** The conducted research of the models of consumer buying behaviour testifies to the existence of considerable differences in consumers’ buying behaviour of EU member countries and Ukraine. Personal income, i.e. purchasing power, has the most essential influence on consumer buying behaviour.

**Keywords:** EU Member States; Consumer Buying Behaviour; Consumer Market; Services; Goods; Ukraine

**JEL Classification:** L10; L51; L67

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1. Introduction

Today, the consumer market is characterized by high competitiveness, decentralised structure, accelerated pace of production, numerous and varied technology-intensive commodities and a very high level of consumers’ awareness in terms of their purchasing choices worldwide. The globalisation of the consumer market and significant disproportions in the levels of employment and income considerably influence buying behaviour of both EU member states and Ukraine.

It is the consumer’s purchase behaviour that defines what is to be produced and in what volumes, as well as at what price, a certain product will be in demand. Therefore, segmentation of the consumer market takes place and some kind of commodity balance is formed. As far as the demand for goods and services is the decisive one, evaluation of consumer buying behaviour is of strategic importance for any country’s economic development.

2. Brief Literature Review

Culture, subculture and consumers’ social standings have a considerable impact on purchase behaviour. Nowadays, there are numerous approaches to research of all factors separately or jointly and to consumer buying behaviour in the process of making decisions on buying some commodity or service.

A number of studies have focused on intercultural social-ly responsible consumer behaviour in the consumer market. Thus, dwelling on available psychology theories, G. Foxall (1990) suggested a typological classification on the basis of five major approaches: economic man, psychodynamic, behaviourist, cognitive and humanistic [1]. Each of the approaches suggests alternative models of man and emphasizes the need to study various changes.

The first approach perceives man to be rational and pragmatic, the one who makes decisions in order to maximise advantages at minimum effort. In order to conduct themselves rationally in the economic sense, consumers have to be aware of all available options of consumption and be capable to assess each option correctly and choose the optimal one [2]. However, consumers rarely have adequate information, motivation or time to make such an «ideal» decision and often act under the influence of less rational factors like social relations and values. Moreover, people do not search for optimal options, but rather for those that satisfy them [3]. The psychodynamic approach claims that human behaviour is stipulated by biological influence through «instinct forces» or «stimuli», which act beyond conscious thinking [4].

Instead, the behaviourist approach emerged as opposite to the psychodynamic approach. The main idea is that behaviour can be explained by external events and actions not related to persons themselves. It does not reflect numerous reactions emerging as the response to analogical or even random «stimuli» or «forces» [5]. At the same time, the cognitive approach explains an observed action (behaviour) through internal personal perception of each consumer [1]. The number of scientists, who suggest profound perception of concrete behaviour aspects when researching the restrictions of cognitive approach, constantly rises. These new approaches are called humanistic, because they examine the peculiarities of each consumer rather than describe general processes [6].

M. De Mooij and G. Hofstede (2011) examine links with a person as well as relations which are the basis of consumer behaviour models and advertising strategies. Scientists also prove that motivation, emotions and cognitive processes are the main aspects of consumer behaviour, in particular: thinking and analysis, as well as consumer behaviour domains such as ownership rights, making decisions, introduction and spread of innovations [7]. Y. Sung and S. Tinkham (2005) [8] and T. Foscht et al. (2008) [9] also devote their works to impacts of brands on consumption.

G. Sproles and E. Kendall (1986) [18] developed the approach to define consumer behaviour styles in the process of making the decisions, which is the Consumer Style Inventory (CSI), a description of consumption styles.

Consumer categories by the level of perception of new products (innovations) are described by E. Rogers (1983) [19]. Consumers’ disposition to complaining behaviour depending on nations’ mentality is outlined by A. Lowe et al. (1998) [20]. Kolomyjets’s research is devoted to meeting consumer needs for qualitative goods and services at acceptable prices through alteration of the mechanism of consumer market development [21].

T.-H. Han and L. Stoel used analytics in order to research the conduct of socially responsible consumers with the view to quantitatively assess the relations between the components of the theory of planned behaviour, to define the contribution of additional parameters into the explanation of conduct intentions and to detect mediators that impact the strength of links between the components of planned behaviour theory [22]. The abovementioned contributed to defining of main factors of conduct intentions, which add to understanding of consumers’ purchase behaviour.

Therefore, for the consumers to make a purchase they have to clearly understand the factors that influence them and...
define the value of commodity or service they are going to buy. The level of personal income is also among the factors influencing consumer behaviour, in particular the buying one. Consumers buy only those goods and services they can afford, which includes forming of income, its use and coordination of income and expenses. As a matter of fact, consumers count on their own resources to meet their family needs for everything necessary for normal living activity. With respect to all the abovementioned, we can establish that a consumer having no sufficient level of income won’t take into account characteristics of goods or services when making buying decisions, but rather will buy only what they can afford.

3. The purpose of this article is to define differences in consumer buying behaviour in consumer markets of EU member states and Ukraine, to confirm the decisive role of personal income in determining consumer buying behaviour, as well as to construct the model of this conduct across countries with regard to the basket of main goods and services and main goods and services of consumption basket.

4. Methodology

The research on consumer buying behaviour is conducted through stepwise regression method with F-tests and pre-standardization of factors and resultant feature. The quality and plausibility of multiple regression equation is verified by correlation and determination coefficients, standard error and Fisher criterion that exceeds tabular values at relevant levels of freedom and trust. Regression analysis allows obtaining the best approximation of result feature with a large number of factors relevant to the model of buying behaviour in consumer markets (income) in EU member states and Ukraine.

The data analysis in this research was conducted for the 2005-2016 period.

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\begin{align*}
&Y_n - \text{income per person, in particular:} \\
&Y_{10} - \text{Ukraine,} \\
&Y_{11} - \text{Poland,} \\
&Y_{12} - \text{Romania,} \\
&Y_{13} - \text{Slovak Republic,} \\
&Y_{14} - \text{Hungary,} \\
&Y_{15} - \text{Czech Republic,} \\
&Y_{16} - \text{Italy,} \\
&Y_{17} - \text{France,} \\
&Y_{18} - \text{Germany,} \\
&Y_{19} - \text{Great Britain,} \\
&Y_{20} - \text{EU.} \\
&X_{1} - \text{consumer price index for goods and services, in particular:} \\
&X_{2} - \text{bread and cereals,} \\
&X_{3} - \text{meat,} \\
&X_{4} - \text{fish and seafood,} \\
&X_{5} - \text{milk, cheese and eggs,} \\
&X_{6} - \text{butter,} \\
&X_{7} - \text{fruits,} \\
&X_{8} - \text{vegetables,} \\
&X_{9} - \text{alcohol-free beverages,} \\
&X_{10} - \text{alcoholic drinks and tobacco,} \\
&X_{11} - \text{clothes and footwear,} \\
&X_{12} - \text{recreation and culture services,} \\
&X_{13} - \text{services rendered by hotel and restaurant business entities.}
\end{align*}
\]

5. Results

We have suggested a hypothesis that personal income has the most essential influence on consumer buying behaviour. In order to justify the hypothesis, we used the Consumer Price Index as the basis for calculations (the Laspeyres Index) [23]. It is worth mentioning that the value of the basket of consumer goods changes in time and is never stable for the consumer. The goods and services selected for the research form the baskets of consumer goods of EU member states and Ukraine.

On the basis of stepwise regression with F-tests, we have constructed the models of changes in buying behaviour in consumer markets in EU member countries and Ukraine depending on the level of income with regard to main goods and services that form consumer baskets of the countries under research (Table 1).

According to the calculated model, the growth of personal income per capita in Ukraine by 1 stipulates the Consumer Price Index growth for bread and cereals by 0.437; milk, cheese and eggs by 0.854, along with the Consumer Price Index fall for butter by -0.783 and fruits by -0.607, as well as for

| Tab. 1: Models of buying behaviour in consumer markets of EU member states and Ukraine depending on income level |
|---------------------------|---------------------------|
| **Country** | **Model** | **Multiple coefficients** |
| Ukraine | $Y_1 = 0.024-0.607x_{10}+0.783x_{3}+0.854x_{4}+0.749x_{5}+0.437x_{6}$ | $R = 0.929151$; $R^2 = 0.863322$ |
| Poland | $Y_2 = 0.020-0.438x_{10}+1.108x_{3}+0.235x_{4}+4.019x_{5}+2.456x_{6}+0.160x_{7}$ | $R = 0.9989; R^2 = 0.9977$ |
| Romania | $Y_3 = 0.072+2.595x_{10}+1.671x_{3}+0.867x_{4}+0.854x_{5}$ | $R = 0.98003; R^2 = 0.96046$ |
| Slovak Republic | $Y_4 = 0.016+0.161x_{10}+1.053x_{3}+1.037x_{4}+0.782x_{5}-0.072x_{6}+0.358x_{7}-0.323x_{8}$ | $R = 0.9994; R^2 = 0.9988$ |
| Hungary | $Y_5 = 0.148+0.872x_{5}$ | $R = 0.87246; R^2 = 0.76118$ |
| Czech Republic | $Y_6 = 0.0458-0.532x_{10}+1.199x_{3}+0.458x_{7}+0.3496x_{8}$ | $R = 0.991975; R^2 = 0.984015$ |
| Italy | $Y_7 = 0.081+3.449x_{3}+1.994x_{7}+0.6194x_{8}$ | $R = 0.97090; R^2 = 0.94296$ |
| France | $Y_9 = 0.022+1.852x_{1}+0.492x_{2}+0.224x_{10}-0.189x_{4}$ | $R = 0.9982; R^2 = 0.9964$ |
| Germany | $Y_{10} = 0.086+1.978x_{1}+0.419x_{2}$ | $R = 0.96313; R^2 = 0.95262$ |
| United Kingdom | $Y_{13} = 0.094+2.557x_{1}+1.752x_{2}+1.677x_{4}+4.061x_{5}+2.561x_{6}+0.548x_{10}$ | $R = 0.97355; R^2 = 0.95170$ |
| EU | $Y_{16} = 0.03936+2.304x_{1}+1.526x_{2}+0.957x_{4}+0.785x_{5}+0.377x_{10}$ | $R = 0.9949; R^2 = 0.9899$ |

Source: Compiled by the authors based on [24-26]
services rendered by hotel and restaurant business entities by -0.749.

The constructed models of buying behaviour in consumer markets of EU member states depending on income level, in particular Ukraine’s neighbours, show that behaviour of the population in each of the countries differs. Thus, personal income per capita growth by 1 in Poland stipulates the Consumer Price Index growth for vegetables by 0.160 and for services rendered by hotel and restaurant business entities by 4.019; in Romania - for bread and cereals (0.867), and for clothes and footwear (2.558); in Slovak Republic - for bread and cereals (0.161), as well as for alcohol-free beverages (0.358), alcoholic drinks and tobacco (1.053), for recreation and culture services 0.782; in Hungary the income growth increases the Consumer Price Index for bread (0.872), and in the Czech Republic only for services rendered by hotel and restaurant business entities (1.199).

The Consumer Price Index for goods and services decline with the simultaneous growth of personal income per capita can be observed:

- in Poland - for fruits (-1.108), alcoholic drinks and tobacco (-2.456), clothes and footwear (-0.438), recreation and culture services (-0.235);
- in Romania - for fruits (-0.854), alcoholic drinks and tobacco (-1.671);
- in the Slovak Republic - for fish and seafood (-1.037), vegetables (-0.072) and fruits (-0.533);
- in the Czech Republic - for bread and cereals (-0.349), vegetables (-0.458), as well as clothes and footwear (-0.532).

The situation in the core countries of the European Union is somewhat different. Thus, in Italy, in particular, the growth of personal income per capita by 1 stipulates the Consumer Price Index growth for bread and cereals (3.449) and its fall for butter, cheese and eggs (-1.984) and fruits (-0.619).

In France and Germany, growth can be observed only for bread and cereals (1.852) and (1.978) respectively, and a fall in France - for butter, cheese and eggs (-0.189), alcoholic-free beverages (-0.492), clothes and footwear (-0.224) and in Germany - for meat (-1.049).

The United Kingdom faces the Consumer Price Index growth for fish and seafood (4.061), alcoholic drinks and tobacco (2.557), as well as clothes and footwear (0.548), and a fall - for meat (-1.677), fruits (-1.752) and alcoholic-free beverages (-2.561).

The constructed models of buying behaviour in the consumer markets of all the EU member states showed that the growth of personal income per capita by 1 stipulates the Consumer Price Index growth for bread and cereals (0.785), recreation and culture services (0.377), as well as services rendered by hotel and restaurant business entities (2.304), with a fall - for alcoholic drinks and tobacco (-1.526), meat (-0.957).

The conducted analysis allows constructing an integral model of differences in buying behaviour in consumer markets of EU member states and Ukraine depending on income level (Table 2).

The model shows differences in buying behaviour in consumer markets of EU member states and Ukraine stipulated by the level of personal income.

In particular, it displays that the growth of income in Ukraine will not change regular buying behaviour, and its residents will continue to buy specific cheap essential commodities, e.g. bread, milk, cheese and eggs. Also consumption of butter and fruits and services rendered by hotel and restaurant business entities will decrease.

The model also indicates that most of the EU member states under research also stick to the principle relevant to the case of Ukraine regarding purchase of bread and cereals; only the Czech Republic tends to diminish its consumption.

With the growth of income, the residents of Poland, the Slovak Republic and the Czech Republic will spend more on services rendered by hotel and restaurant business entities and recreation and culture services. Instead, the consumption of fruits, alcoholic drinks and tobacco, clothes and footwear will decrease in Poland, fish and seafood, fruits, vegetables - in the Slovak Republic, bread and cereals, vegetables, clothes and footwear - in the Czech Republic.

Income growth in Hungary will not bring any considerable changes to buying behaviour. Only the consumption of may possibly grow. The income growth in Romania will change purchase behaviour towards an increase in the consumption of clothes and footwear and a fall in the purchase of fruits, alcoholic drinks and tobacco.

Despite a growth in income, the Italians, the French and the Germans are more pragmatic in their consumer preferences and will hardly change them towards demand growth, except for bread consumption. On the contrary, the consumption of certain commodity groups from the basket of consumer goods will decrease, in particular in Germany - meat; in France - alcoholic-free beverages, clothes and footwear; in Italy and France - fruits and milk, cheese and eggs.

The buying behaviour of consumers in Great Britain will partially change due to the income growth. Specifically, they will consume more fish and seafood and alcoholic drinks and less meat, fruits and alcoholic-free beverages.

In the EU, the income growth will direct the buying behaviour towards a growing consumption of bread, services rendered by hotel and restaurant business entities and recreation and culture services. Instead, the consumption of meat, alcoholic drinks and tobacco will decrease, i.e. goods at higher prices or prices increasing due to higher inflation rates.

6. Conclusions

The conducted research of consumer behaviour testifies to the existence of considerable differences in buying behaviour of EU member states and Ukraine. Personal income, i.e. purchasing power of residents, has the greatest impact on buying behaviour. Generally, we can confirm that the greatest fluctuations in demand for goods of the consumer basket are relevant to the consumption of bread and cereals, fruits, clothes and footwear. The least fluctuations in consumer preferences are peculiar to meat, fish and seafood as well as services of hotel and restaurant business entities, as well as recreation and culture services.

The interrelation between the price of goods and services and the volumes of their consumption can be most vividly observed in Ukraine.

The deviation of buying behaviour from the level of income growth in some EU member states is unessential and initially related to their national traditions, awareness and subculture.

<table>
<thead>
<tr>
<th>Country</th>
<th>Bread and cereals</th>
<th>Meat</th>
<th>Fish and seafood</th>
<th>Milk, cheese and eggs</th>
<th>Butter</th>
<th>Fruits</th>
<th>Vegetables</th>
<th>Alcohol-free beverages</th>
<th>Alcohol-free drinks and tobacco</th>
<th>Services in the sphere of the state and culture</th>
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Note: - Goods without significant changes; > - Consumer Price Index growth; < - Consumer Price Index decline.

Source: Compiled by the authors based on Table 1.
It is of strategic importance to take these peculiarities into account, because this will contribute to predicting the growth or decline in demand for certain groups of commodities and services and developing the complex of activities in marketing by enterprises producing goods and services and price policies in general.

The developed models can be used to further research impacts of changes in income on demand both in the EU member states and Ukraine, as far as the quality and plausibility of the multiple regression equation is verified by correlation and determination coefficients, standard error and Fisher criterion that exceed tabular values at relevant levels of freedom and trust.

References

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30