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Abstract: The analysis of consumption plays an important role in both macroeconomic theory and empirical research. The matter of macroeconomic instability is one of the main points in modern macroeconomics. The tasks of the paper are: to reveal the essence of the consumption of the population as an economic category; to assess consumer attitudes in different countries, to determine the number of factors that affect the level of consumption and its structural elements under instability; and to construct the models of population consumption patterns. The analysis of the changes in consumer attitudes over the world during the period of instability was conducted. We observed the dynamics and structure of household consumption spending in the United States, Canada, Japan, the European Union, the Russian Federation and Ukraine. It has been resolved that over the past few years the global trend has improved, which is characterized by an increase in the consumer confidence index for most countries. Note, that we made a focus on the post-crisis period only for Ukraine, not considering the war period due to missed data. Nevertheless, we found out that the Consumer Confidence Index in Ukraine has dropped sharply over the past two years. Ukraine's population still negatively assesses the economic trend due to the difficult macroeconomic situation in the country. We built the model of the dependence of the consumption growth rate on the permanent and temporary incomes growth rate, the rate of inflation and the percentage deviation from the long-term equilibrium in the period of instability based on the samples for different periods for the United States, Canada, Japan, the Russian Federation and European countries.

Keywords: Model, instability, consumption, EU, Ukraine, consumer confidence index.

JEL Classification: E27

1. Introduction

Household consumption expenditures are an important tool for financial planning, representing about two-thirds of GDP. It is also considered to be the main indicator of the economic well-being of the country. Consumption of the population fulfils economic and social functions in society. Economic functions are in the demonstrating needs, regulation of the volume and structure of production, labour forces; being a criterion of social product performance. Social functions are in the material welfare of the population, the formation of a fully developed personality. The experience of developed countries shows that the market economy is rapidly developing when it is based on mass consumption, the transformation of personal final consumption into a decisive element of GDP.

The most general approach to the population consumption for the world-wide practice of the statistical analysis is: total household expenses are divided into consumer and non-consumer aggregate expenses. In turn, consumer aggregate costs are divided into food products and soft drinks; alcoholic beverages and tobacco products; non-food products and services. From the standpoint of living standard, the priority is given to analyzing the consumption of primary needs of the population, which includes food, clothing, footwear, and housing. The food expenses of the family budget are a social indicator of the household financial position. It is explained that the size of its formation depends on the structure of the rest of the family budget, including those articles that characterize a higher level of living standards (Erlandsen & Nymoen, 2008).

The theory says that the sum of the marginal propensity to consume (MPC) and the marginal propensity to save (MPS) should be equal to one. At the same time, under conditions of stable economic growth, MPC tends to decrease, while MPS - to increase. In the context of inflation, there is another process, namely: MPC tends to increase, and MPS - to decrease (Friedman, 1957). If MPC = 1, then the entire increase in available income will be consumed, and no savings will be made. This situation is typical for Ukraine. In an unstable economic situation under the lack of protection of deposits from inflation, the population increases the consumption, especially of durable goods. That is the typical situation for the pre-crisis condition. In 2009, the situation changed dramatically: MPC = - 0.03 (incomes increased while consumption decreased), MPS = 1.03. The negative value of the marginal propensity to consume and the fact of the entire consumption of the income increase can be explained by psychological factors in a crisis:

households expected the price rising and incomes decreasing → led to an increase in current expenditures and a decrease in savings (2006-2008 years) → than to increase in savings and reduce in consumption (2009) → consumers are forced to reduce current consumption to diminish the debt that arose as a result of "life at the expense of loans." In 2012, there was an improvement: MPC=MPS=0.5. However, in 2013, there was a significant increase in MPC (to 0.76). That indicated a significant inflationary process and the impact of instability on the level of income and expenditure of the population. In general, there is a low level of propensity to save, which has a negative impact on the investment potential of savings and the expediency of consumer spending in Ukraine. This can be explained by:

- the low level of the financial market infrastructure development, of the financial intermediation as a whole;
- the low level of public confidence in the financial and credit area, state and government;
- the long-term socio-economic and political instability;
- the low financial literacy;
- the insufficient state funding for saving and investment behaviour of the population.

The main indicator of the state economic and social policies effectiveness under instability is a high standard of living (Sen, 1984). Up to the date, Ukraine is far behind the European countries in most indicators of economic development.

2. Literature review

The consumption theory is studied by a variety of economic schools, in particular the classical economic theory (Malthus, 1989; Ricardo, 2005; D. Mill), Keynesianism (J. Keynes), Neo-Keynesianism and Post-Keynesianism, represented by two Schools: American (E. Hansen; J. Clark; Harrod, 1937) and European (Ardant, 1975; Perry et al, 1971), researchers in the theory of consumer demand (A. Ando; Duesenberry, 1949; Friedman, 1957; Modigliani & Brumberg, 1954) and representatives of the modern approach (Baldachi et al, 2008, 2010) (Bonar, 1911; Hall, 1988; Ferber, 1973). Despite the fact that there are many controversial issues in the development of theoretical aspects of consumption, scientists collectively agree that the total consumption is the most important characteristic to assess the living standards and an indicator of the country's economic well-being under instability.

Research on the problem of global instability is extremely relevant mostly in the aspects of its causes, consequences and ways of overcoming (Gale, 1963; Combes & Ebeke, 2011; Barrell et al, 2006). After all, the understanding in the causes and the nature of macroeconomic instability in a market economy is a prerequisite for developing an economic policy aimed to eliminate the macroeconomic imbalances, to achieve a stabilization of prices and production. In addition, the implementation of economic policies aimed to minimise the cyclical development of a market economy and the elimination of the effects of economic downturns; the achievement of the minimum level of cyclical unemployment, the performance of the correspondence between the structure of the working population and the structure of existing workplaces, the effective allocation of labor resources; the price stability ensuring, especially in the short-term development period of the economy, are noted first of all among the main functions of the modern state.

3. Assessment of changes in consumer confidence under the instability period

Economists pay the great attention to the consumer market trends, especially in the time of economic changes, because it reflects the welfare of the population. Currently, various research groups in different countries of the world, including GfK Ukraine (https://www.gfk.com/uk-ua/), Nielsen (https://www.nielsen.com/ua/uk.html) and the International Center for Policy Studies (http://www.icps.com.ua/en/), are engaged in consumer confidence issues. Consumer mood is a monthly survey of household expectations and their assessment of the current state of the economy and its welfare. Consumer Confidence Index (CCI) is a leading indicator of trends in the consumer market, which is used globally. This indicator is a predictive indicator of a potential change in consumer demand in subsequent periods. The Consumer Confidence Index is based on a sample survey of households in the country. Under the survey, 1,000 people aged 15 to 59 are interviewed. The sample is representative by gender and age, taking into account the urban and rural population and the size of the city. The statistical deviation does not exceed 3.2%. The following consumer confidence indices are distinguished:

• Index of current personal financial position,
• Index of expected changes in personal financial position,
• Index of expected economic development in the country over the next year,
• Index of expected economic development in the country over the next five years,
• Index of expediency to make gross purchases,
• Consumer Confidence Index,
• Index of current status,
• Index of Economic Expectations,
• Index of expected dynamics of unemployment,
• Index of inflation expectations,
• Devaluation expectations index.

The index values can vary from 0 to 200. The value equals 200 if all citizens positively evaluate the economic situation. The index is 100 when the shares of positive and negative ratings are equal. The value of the index is less than 100 means that negative values predominate in society.

Fig. 1 shows the Nielsen Consumer Confidence Index in the world for 2016. Ukraine is still ranked second among the most pessimistic countries in the world after South Korea. The Global Consumer Confidence Index remains basically at the same level, adding 1 point in comparison to the last quarter of 2015. While the confidence levels increased by 5 or more points in 11 countries out of 61. The trust levels dropped by 5 or more points compared to last year in 21 countries. Among all countries in the survey, India remains one with the highest level of confidence and optimism - 134 points; and this indicator has grown by 3 points in comparison with the last quarter. The US Consumer Confidence Index dropped immediately in 19 points (to 100) in the last quarter of 2015, while the optimism in the first quarter of 2016 increased by 10 points (to 110). In the first quarter of 2016, Russia entered the list of countries with the lowest index of consumer confidence index for the first time in 11 years (drop by 11 points to 63 points). A similar situation was observed in the first half of 2009, with the onset of the crisis, when the index also fell significantly - from 104 to 75 points. Belorussia and Kazakhstan firstly joined the study of the consumer confidence index in the first quarter of 2016. The first results showed that the mood of the Belarusians is close to the mood of Ukrainians - 50 points, while respondents in Kazakhstan are much more confident in the prospects - 73 points, respectively.

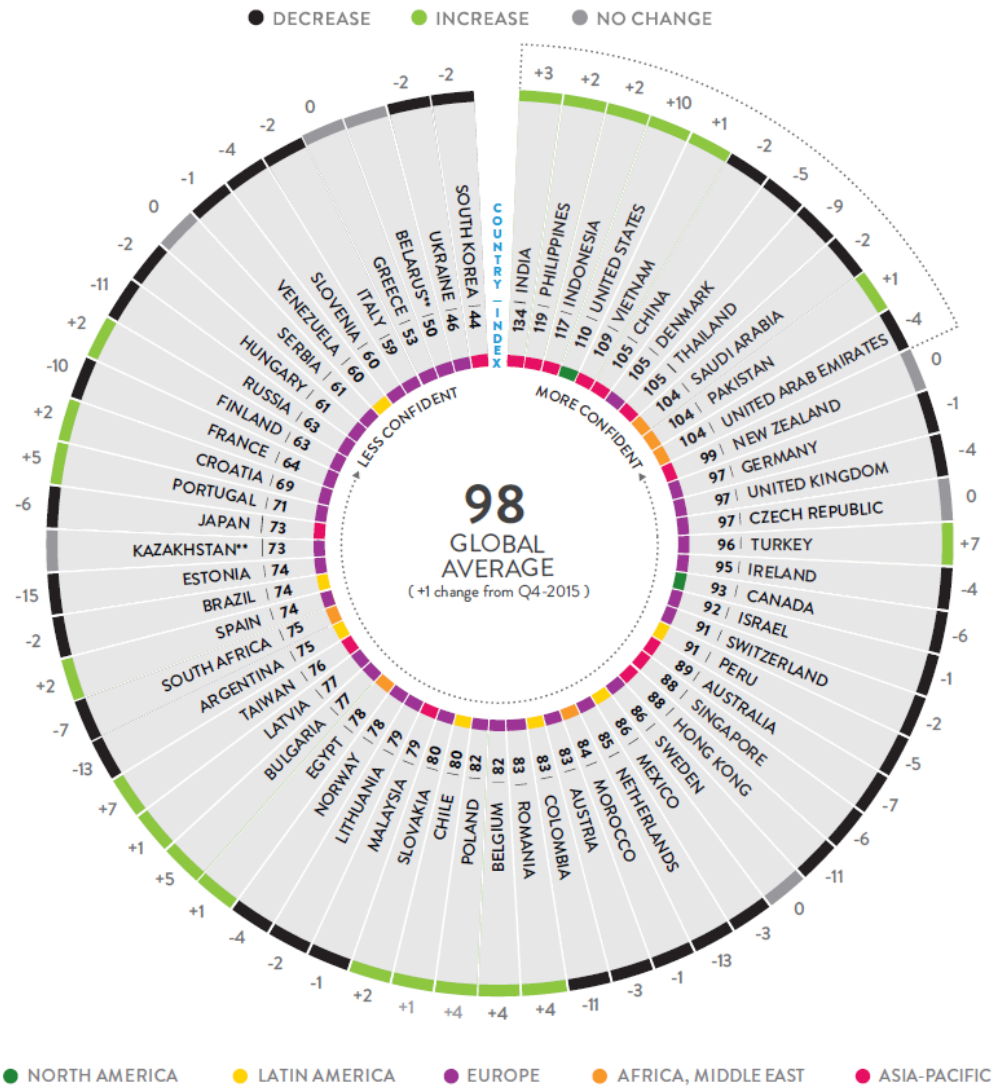

Fig. 1. Consumer Confidence Index
Source: https://www.nielsen.com/ua/uk/insights/news/2016/nielsen-cci-Q1-2016.html

4. Determination of the key trends in the dynamics of household consumption in the world

There is the uneven distribution of countries in terms of consumption: the highest consumption is observed in the USA. In turn, the average household consumption expenditures in some African countries are much lower than in most countries of Eurasia, North and South America. This is explained by the different level of economic development, the geographical location of the country, the number of population, the development of industries, which produce goods and provide services of a consumer nature, the level of monetary incomes, etc.

Fig. 2 shows the global dynamics of the ratio of final consumer spending to GDP from 1970 to 2016. It clearly shows a decline in the ration of the consumption to GDP in the periods of instability: 1990, 2007 - 2008.

Note, that the highest level is typical for the USA in the period, followed by Japan, the EU and Canada at almost the same level. In most countries, household consumption costs accounted for more than half of GDP. With the onset of the financial crisis, consumption has declined noticeably in many countries. There are several reasons for the decline in consumption during the crisis. The first explanation – the level of constant income has declined, which led to a reduction in consumption, as shown in the hypothesis of constant income and loss (Friedman, 1957). The second explanation suggests that consumption has fallen through credit constraints or liquidity constraints (Aron et al, 2012). If actual incomes fall and households do not have accumulated savings or access to loans, their consumption also drops despite the level of permanent income remains constant. The third explanation is the so-called preventive savings (Mody et al, 2012). In the context of the financial crisis, savings can be used as a debt (Bornhorst & Arranz, 2013). After households have restored their balance sheets, the future consumption would be again financed by a new loan. Moreover, even when the credit obligations currently are not mandatory, not-risky households increase their savings for the future to repay such possible loans (Jappelli, 1990).

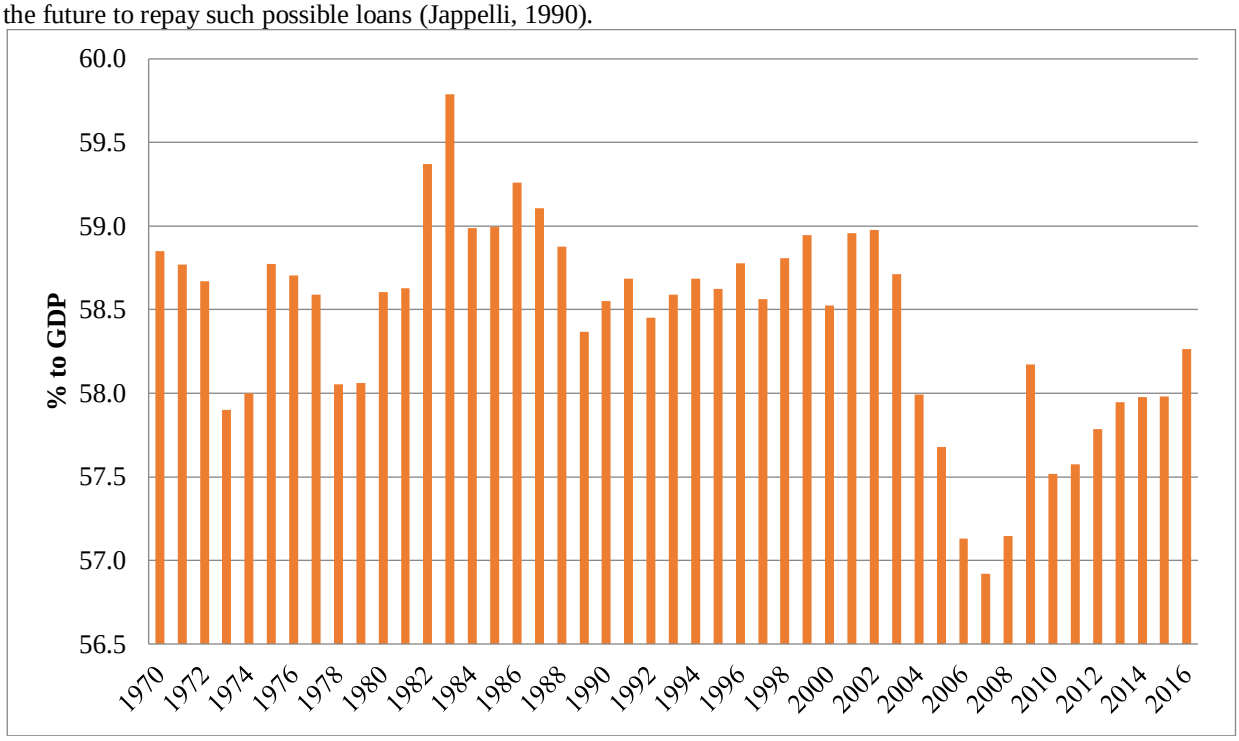

Fig. 2. The ratio of household consumption to GDP in the period from 1970 to 2016
Source: The World Bank

Fig. 3 shows the total consumer spending dynamics in the European Union from 1970 to 2016. The dynamics of this EU indicator is not so stable in comparison to the US, Canada and Japan. The deceleration and reduction of consumption rates were typical for 1980 - 1985 and 1995 - 2000. Since 2001, there has been a steep rise in the consumption of population in the European Union, which lasted until 2008, when the indicator fell significantly due to the crisis. In 2013, the level of final consumer spending had not yet reached a pre-crisis, due to the presence of economic problems in some European countries.

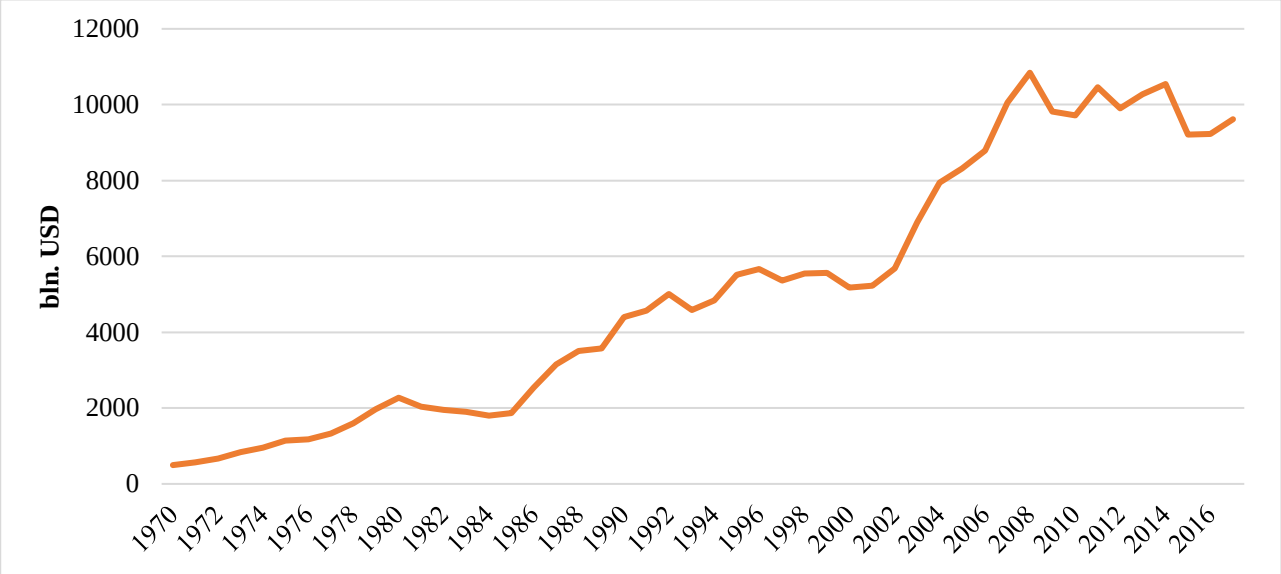

Fig. 3. Household consumer spending in the EU from 1970 to 2016
Source: World Bank

The costs of services and goods are distributed almost equally in the EU consumption structure (60% and 40%, respectively). The largest share of spending is for housing, water and electricity costs – 17 to 27% (Malta - 12%), with education having the smallest share - 1%. The costs of essential goods are rather low. The smallest part of the household budget on food is spent by residents of Luxembourg - only 8.8%. Next, there are Great Britain and Ireland - 9.3% and 10.1%, respectively. There are Austria and Germany also in this TOP-5 (10.2% and 11.5%, respectively. The residents of Romania, Lithuania and Macedonia spend more than one-fourth of its consumer spending on food. This indicates a large stratification in Europe. The share of food costs is lower than the average only in 9 EU countries. The quota of alcohol and tobacco costs is as well remarkable to consider. The least dependence on alcohol prices is in the winemaking countries - Italy (2.8% in expenditure structure), France (3%) and Spain (3.1%). In turn, alcohol striving mostly influences the budget of households in Bulgaria, the Czech Republic, Poland and Estonia, where this group of costs ranges from 7% to 10%, which is one of the highest rates in the world. Other categories of expenses in the European Union countries do not differ significantly: household items - 4% - 7.5%, health care - 2.5% - 5.5%, transport - 10% - 13%, communications - on average 3%, rest and culture - 7% - 11%, restaurants and hotels - the average rate was 9%.

In general, the structure of consumption in the countries of North America, Asia and Europe is typical for highly developed countries. The former USSR countries have disproportions in the structure of consumption, which reflect the negative realities of economic development.

5. Modelling of population consumption under instability

Consumption models based on regression analysis are widely used in practice. The regression equation serves as a function of consumption, and the factors that determine it are considered as independent variables. The statistical analysis carried out in the previous section indicates that consumption and income levels for the most studied countries, including Ukraine, are characterized by the seasonality that must be taken into account while constructing the model. To solve this problem, an approach that involves the construction of consumption models with seasonal variations is adopted.

Seasonal differences in models measure the difference between the current value of the indicator and the value observed a year ago. Since quarterly indicator data in Ukraine and in the world are used for modelling, seasonal differences are recorded as follows:

$$\Delta_4(x)_t = x_t - x_{t-4}.$$

Moreover, such an approach makes it possible to get rid of additive seasonality (constant seasonal wave) and a linear trend. Therefore, the use of a model with seasonal differences does not require the additional input of dummy variables of seasonality and trend.

We use the model based on the DHSY (Davidson et al, 1978) approach:

$$\Delta_4 \ln(CON)_t = a_0 + a_1\Delta_4 \ln(INC)_t + a_2\Delta\Delta_4 \ln(INC)_t + a_3(\ln(CON)_{t-4} - \\ - \ln(INC)_{t-4}) + a_4\Delta_4 INF_t + a_5\Delta\Delta_4 INF_t + \varepsilon_t,$$

where CON_t – household expenditures for consumption in the period *t*,

INC_t – household income in period *t*,

INF_t – consumer price index in period *t.*

Let's look at each element of the model in detail. Seasonal changes in consumption approximating the growth rates are given as follows:

$$\Delta_4 \ln(CON)_t = \ln(CON)_t - \ln(CON)_{t-4}.$$

It depends on seasonal changes in income (growth rate of current income):

$$\Delta_4 \ln(INC)_t = \ln(INC)_t - \ln(INC)_{t-4}.$$

Coefficient a_1 shows the increase in the growth rate of population consumption with a 1% increase in income growth rate. The component $a_1\Delta_4 \ln(INC)_t$ shows a change in the constant income directed to consume. The variable model that measures short-term deviations between seasonal changes in income, that is, the variable of the temporary income is given by the formula:

$$\Delta\Delta_4 \ln(INC)_t = (\ln(INC)_t - \ln(INC)_{t-4}) - (\ln(INC)_{t-1} - \ln(INC)_{t-5}).$$

Taking into account the theoretical principles of the model, the coefficient a_2 must have a negative sign. Since, according to the theory of constant income, consumers smooth their intermittent consumption due to savings and loans that enable households, on the one hand, to prevent consumption in periods of possible loss of income, and, on the other - to increase consumption in periods with a relatively low income. Specifically, if in a certain period, the temporary income is positive and $\Delta\Delta_4 \ln(INC)_t > 0$ then consumers should reduce their consumption to the level that was observed in periods when the current income consisted only of a constant income - in response to such a change.

The difference $(\ln(CON)_{t-4} - \ln(INC)_{t-4})$ shows the effect of the impact of short-term deviances on the long-term equilibrium relationship between consumption and income $CON_t = \varphi INC_t$. It defines the proportion of consumption of income in the long run. For example, if in the last year there was a positive deviation from the equilibrium $(\ln(CON)_{t-4} - \ln(INC)_{t-4}) > 0$ (the ratio of consumption to income was greater than some equilibrium level φ), then this year households trying to adjust their consumption and would reduce it. In the current period, it would be $\frac{CON_t}{INC_t} < \varphi$.

There is also the need to include in the model variables that reflect inflation processes. It helps to determine the impact of the decrease in the purchasing power of money on real consumption. So, the variable $\Delta_4 INF_t$ is the rate of

inflation in the country, $\Delta\Delta_4 INF_t$ - the acceleration of the inflation rate. Note, if consumers interpret the growth of nominal income as the growth of real income and do not observe or for some reason not realistically evaluate the change in price levels, then their real consumer expenditures can react to the growth of nominal income. In the case of unpredictable inflation, consumers can interpret the rise in prices for common goods as the relative one rather than as a general increase in the price level, on the one hand. On the other hand, if there is an unpredictable growth of prices, households suffer losses related to the holding of assets in the national currency. Thus, in response to unexpected changes in prices, households can reduce their real consumption.

We constructed models based on data for Ukraine from the 2nd quarter of 2002 to the 3rd quarter of 2014. Thus, at first, the research was carried out on the first 11 observations of data (since the model contains five unknown parameters and lags to the fifth order), the next steps were to add to the sample one endogenous and all exogenous variables. The process was repeated until all observations were used, with 40 models for each element. We see that the model based on the sample for all periods is sufficiently precise to analyze the consumption of population in Ukraine under instability since the adjusted-R^2 is 0.76 and the normalized coefficient is 0.73.

Fig. 4 shows the value of the a_1 coefficient, which determines the marginal values of the annual changes in consumption in relation to the annual income changes (in percentage terms) and measures the share of current income that consumers convey as changes in fixed income.

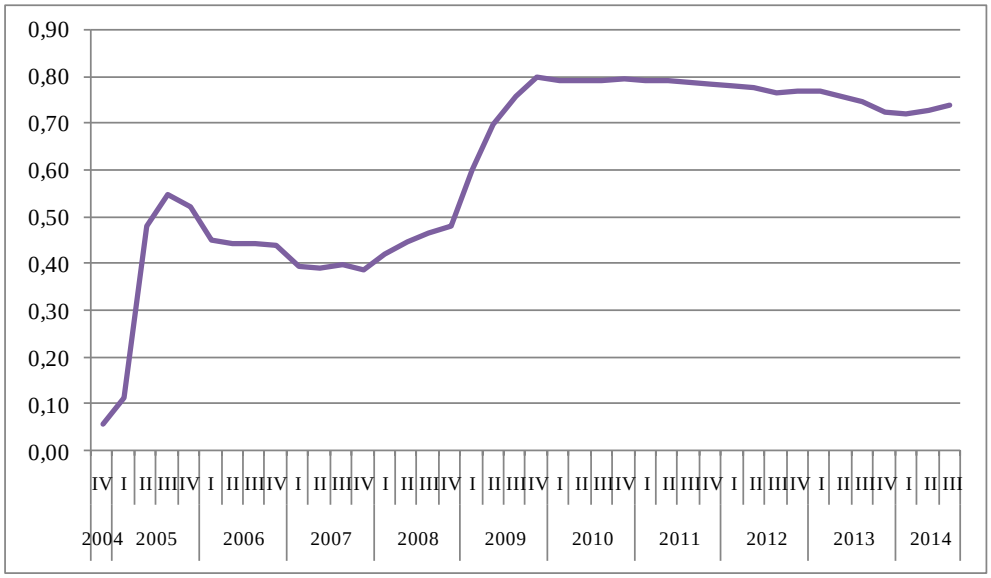

Fig. 4. The value of a_1 the coefficient
Source: authors' calculations

Remark, the a_1 coefficient is stable at the level of 0.4-0.5 in the period from the 2nd quarter of 2005 to the 1st quarter of 2009. Then, there was a sharp jump up in the 2nd quarter of 2009 and this coefficient was about 0.8 since the 4th quarter of 2009. Consequently, we can assume that the annual actual income growth by 1% stimulates the increase in the consumption growth rate by 0.8%. It says that the population in Ukraine traced the changes in temporary income and forwarded about 80% of current-income changes at consuming, that they interpreted as changes in the constant income. It can be assumed that as a result of the crisis of 2008-2009, the increasing share of changes in current income is described by consumers as changes in the constant income. It means they are inclined to direct almost all changes in current income to consumption.

Fig. 5 shows the dynamics of the a_2 coefficient, that reflects the adjustment of changes in consumption to short-term changes in the income growth rate, that is, changes in temporary income. After the crisis of 2008, this ratio

becomes negative indicating that the temporary income growth corrects towards its decrease the current consumption growth, which is caused by the current income growth. That is consistent with Friedman's statements (1957). However, this coefficient is not significant in most of the investigated periods. Therefore, such a correction is not indispensable for most Ukrainian consumers.

The value of the a_2 coefficient can be interpreted as the proportion of households with liquid constraints. The model shows that households in Ukraine face liquidity constraints, that is, they practically cannot loan. This forces households to exhaust the resources they have accumulated in previous periods. At the result, consumers are not able to smooth their consumption over time and their consumer decisions are almost entirely based on current income.

Figure 6 shows the dynamics of the a_3 coefficient. This coefficient determines the speed of applying to the equilibrium which is determined by the long-term equilibrium ratio of consumption to income. The coefficient is significant and negative for the whole investigated period. So, consumers reduce the share of consumption in income in the current period, if this ratio exceeded the equilibrium level in the previous year. The model shows that due to the crisis and instability, the sensitivity of consumption to deviations from long-term trends has increased.

The effect of rising consumer prices can be seen from the dynamics of a_4. The analysis of Fig. 7 shows that after the 2008 crisis and in the period of instability, consumers are more likely to determine the impact of the price level on their consumption. An increase in the inflation rate also results in costs that arise from the depreciation of households' assets and savings in the national currency. That results in changes in their wealth value - according to F.Modigliani's life cycle hypothesis it is an important factor in consumption. In addition, the inflation rate growth raises nominal interest rates, which negatively correlates with changes in wealth, and, hence, in consumption.

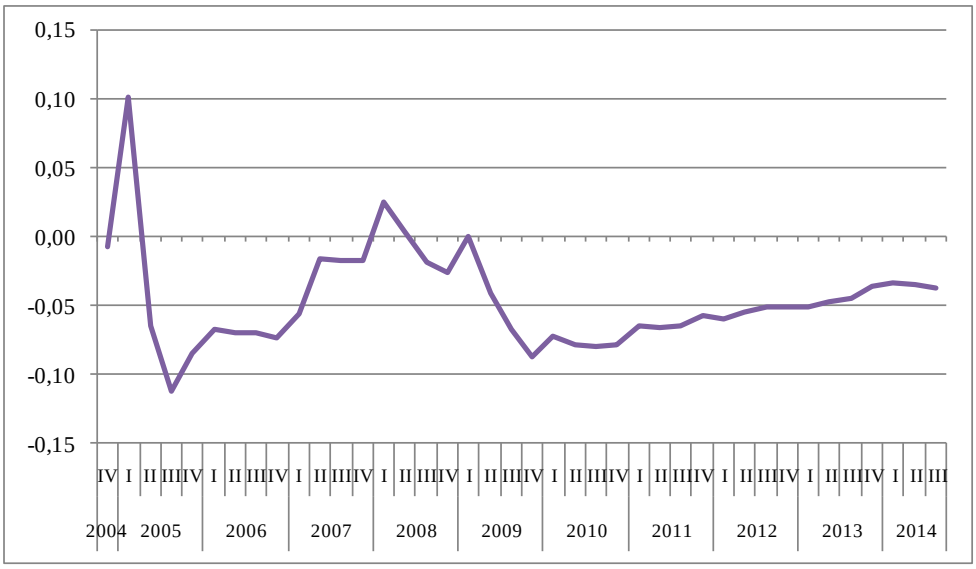

Fig. 5. The value of the a_2 coefficient

Source: authors' calculations

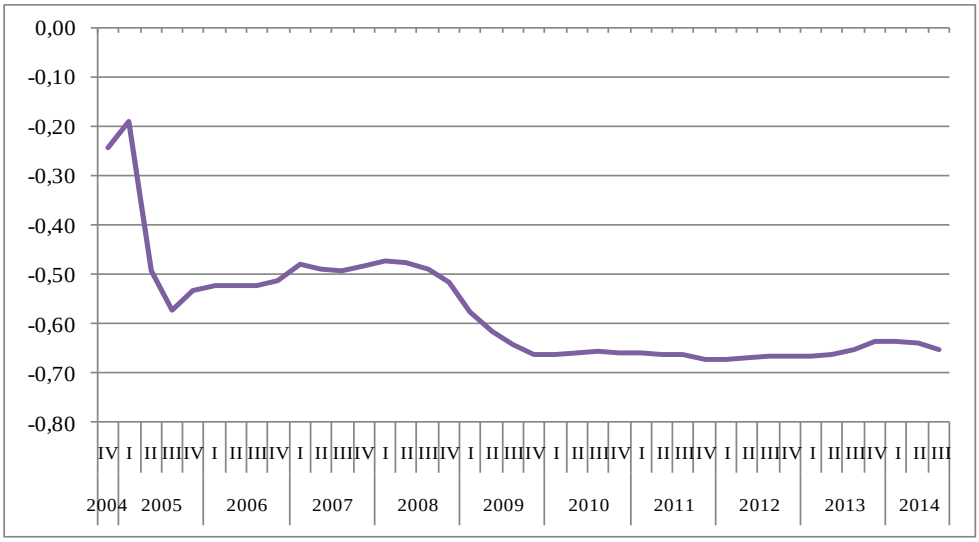

Fig. 6. The value of the a_3 coefficient
Source: authors' calculations

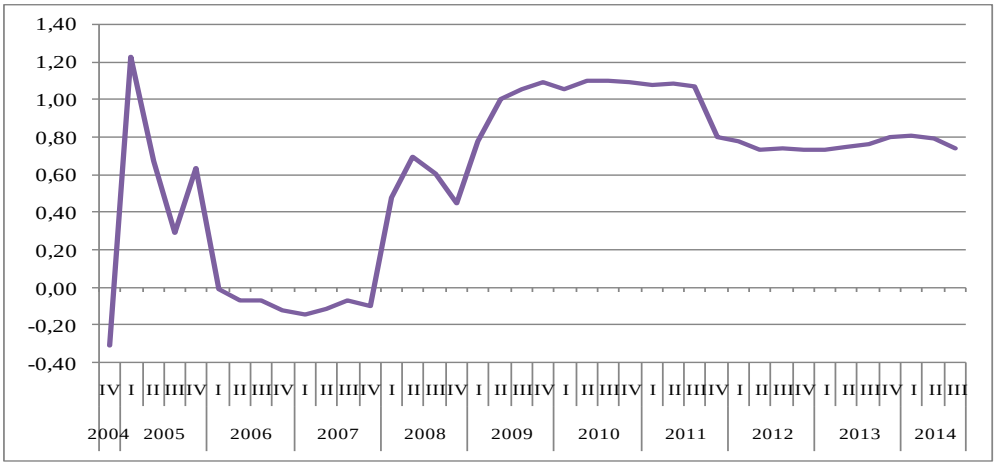

Fig. 7. The value of the a_4 coefficient
Source: authors' calculations

Fig. 8. shows that the a_5 coefficient is negative in the studied periods. It means that the consumption of households in Ukraine reacted to the accelerator of inflation: the higher value of it reduced real consumer consumption.

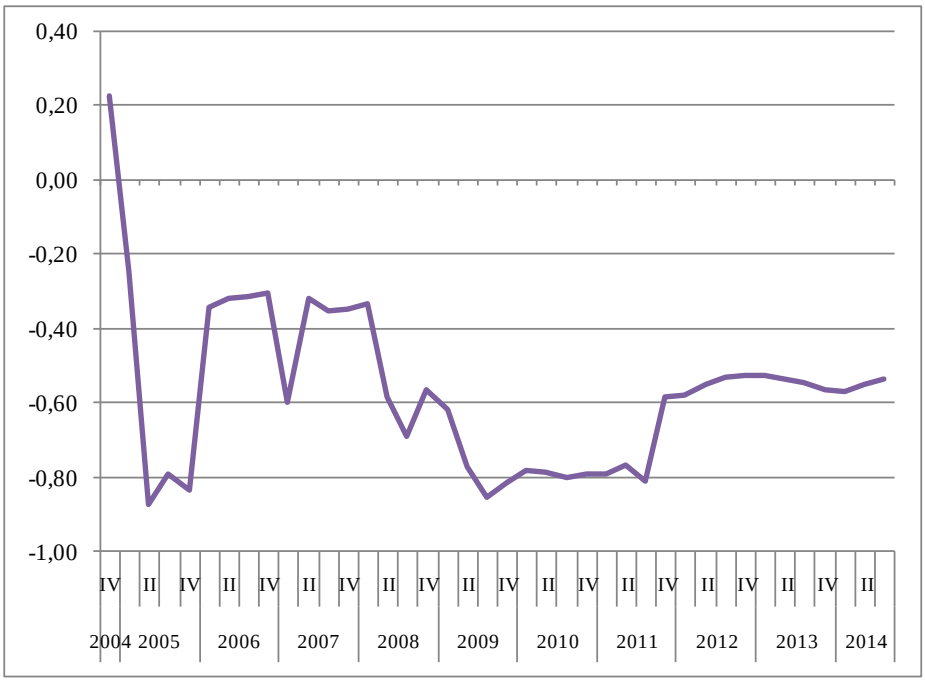

Fig. 8. The value of the a_5 coefficient
Source: authors' calculations

Separately we carried out an econometric analysis of population consumption under instability in the United States of America, Canada, Japan, the Russian Federation and the European Union (aggregated indicator for all EU member states). Data period – from the 1st quarter of 2002 to the 4th quarter 2013 year. We built 24 economic and mathematical models for the period of instability. It was established that the constructed models are significant, since the values of adj-R^2 are rather high (the United States of America - 0.94, Canada - 0.91, Japan - 0.69, European Union countries - 0.64 and Russian Federation - 0.71), as well as coefficients of models are significant according to Student's criterion for the 0.5 significance level. The coefficients of the model reflect (Fig. 9 - 13):

- a_1 shows the growth rate of population consumption if the rate of income growth changes by 1%;
- a_2 represents the adjustment of changes in consumption for short-term changes in the rate of income growth, that is, changes in temporary income;
- a_3 defines the proportion of consumption in income in the long-run period;
- a_4 and a_5 explain the effect of price rising to consumption (Table 1.).

Appeared that the conditions of instability in the United States did not significantly affect the impact of income growth on the growth of consumption. Just the small ratio of change in current income is directed at the consumption. Also, in the long-term, the population adjusts its consumption not only depending on the level of income, but also depending on additional sources of financing (loans), and, to a small extent, it determines the effect of inflation on its consumption during the period of instability. This is due to the constant level of inflation, strong national currency and the fact that inflation does not devalue the assets of the population and the level of their wealth.

The model results show that the annual growth rate of actual income by 1% increases the growth rate of consumption by 0.7-0.8% in Canada. A similar situation is typical for Ukraine in the post-crisis period of 2008-2009. It

is established that the influence of the price level on population consumption is not significant in Canada, but during the crisis, there was a negative correlation between the indicators.

It resulted that with the increase in the income rate, the growth rate of population consumption decreased in Japan. It indicates that the growth rate of savings increased. This fact specifies that the Japanese population has confidence in a constant level of income since it can properly distribute income for consumption and allocate a significant part of it to savings. It also determines the sensitivity of consumption to the deviations from long-term trends, as well as the fact that during the crisis and instability, inflationary processes did not significantly affect the consumption level.

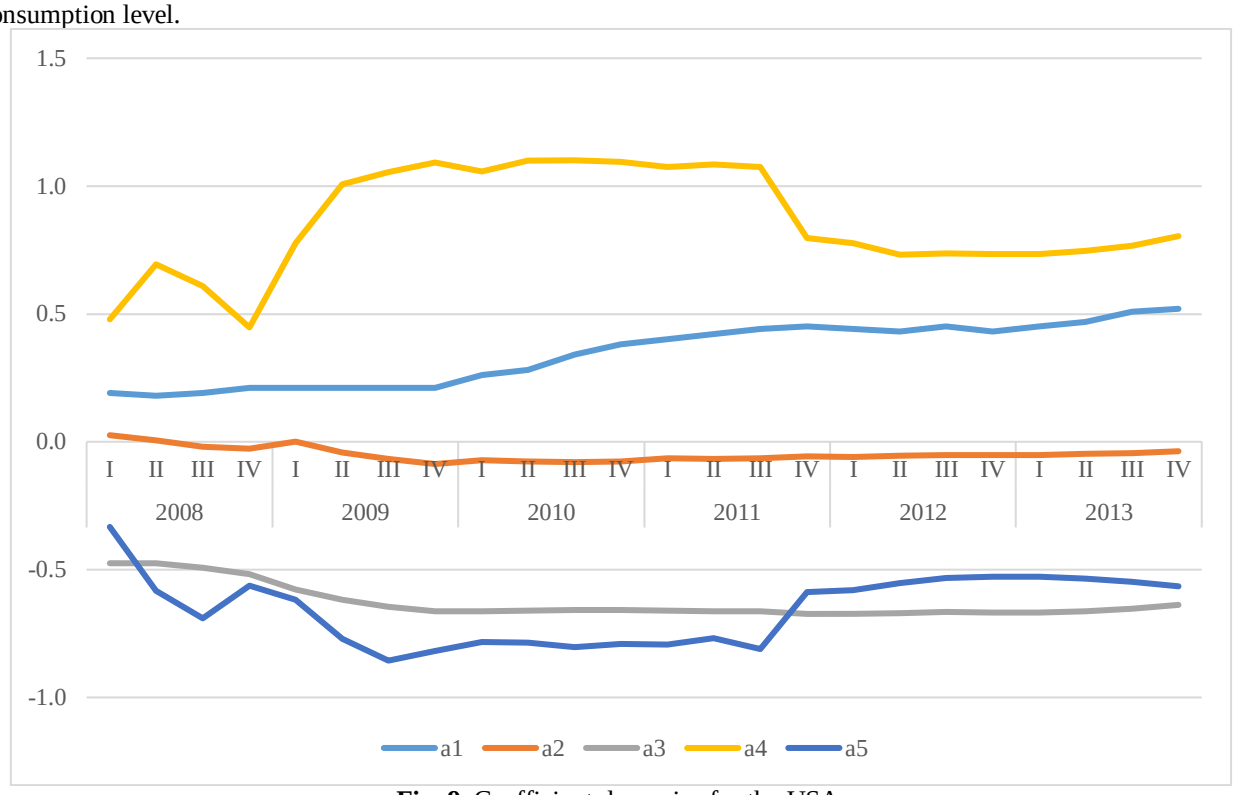

Fig. 9. Coefficient dynamics for the USA.
Source: authors' calculations

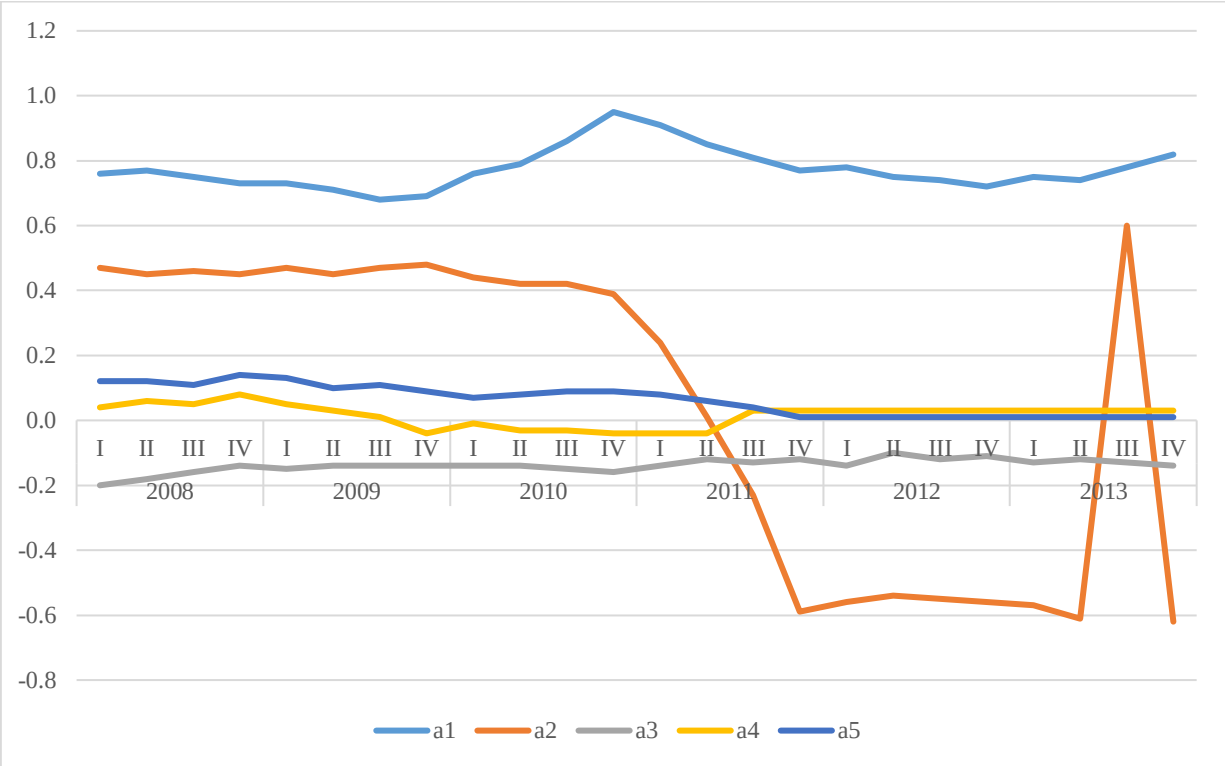

Fig. 10. Coefficient dynamics for Canada.
Source: authors' calculations

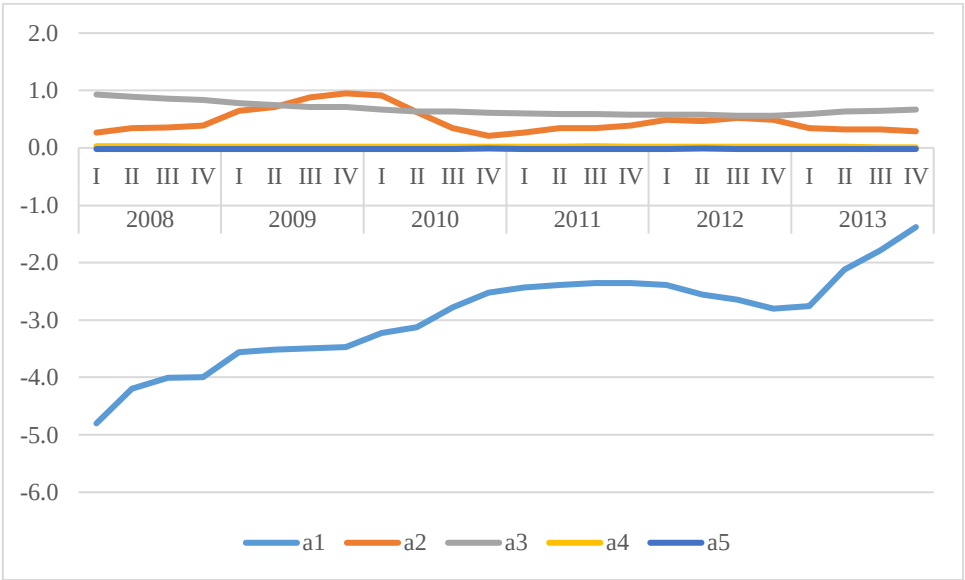

Fig. 11. Coefficient dynamics for Japan.
Source: authors' calculations

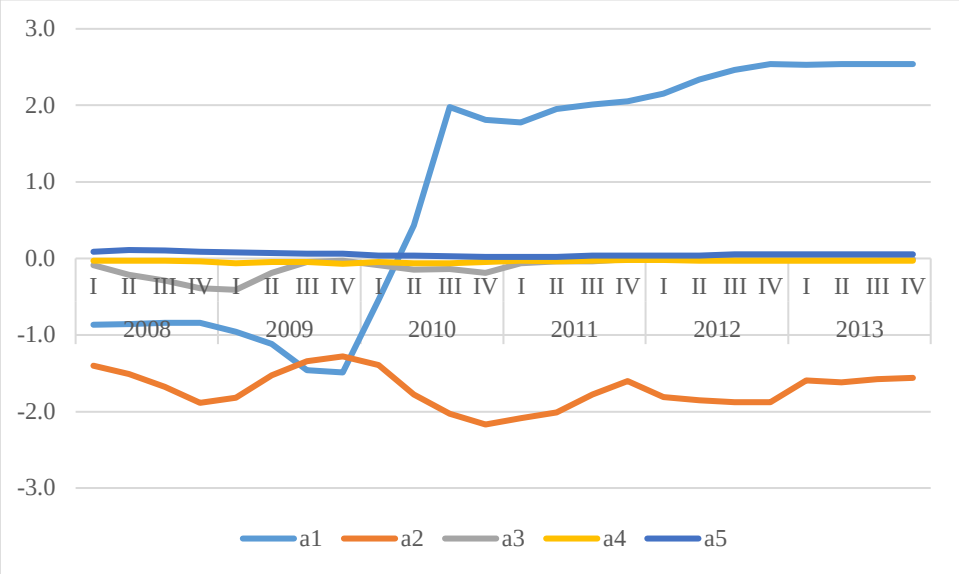

Fig. 12. Coefficient dynamics for EU.
Source: authors' calculations

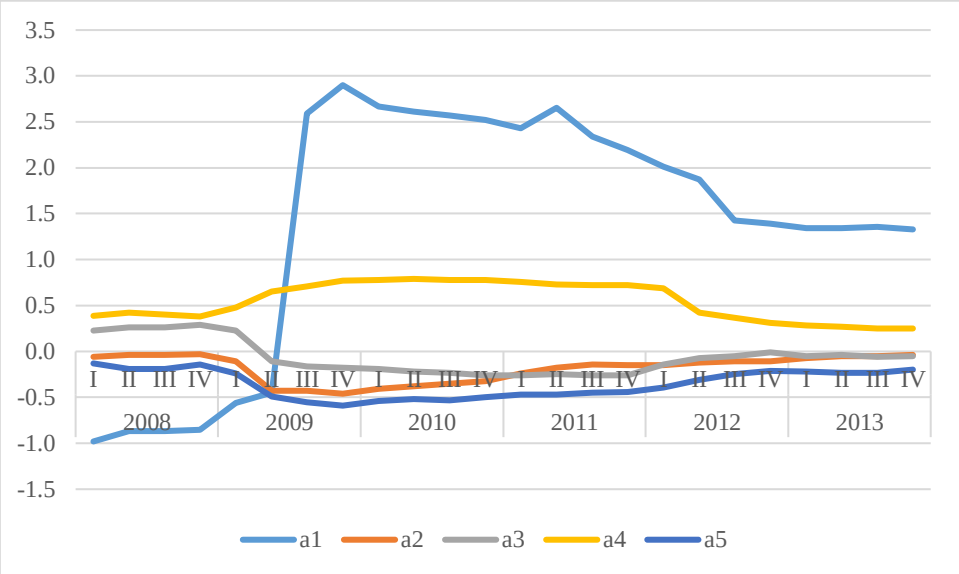

Fig. 13. Coefficient dynamics for Russia.
Source: authors' calculations

As to the European Union, the following conclusions were drawn:

- the population is uncertain about the level of future income and whether such income can meet current needs, so the excessive consumption occurs;
- the EU population attempts to restrain its consumption with the growth of the temporary income;

- the negative effect of short-term deviations from the long-term relationship between consumption and income, that is, consumers, reduce the share of consumption in income in the current period, given the long-term analysis of their income level;

- as a result of the crisis and instability, the sensitivity of consumption to deviations from long-term trends has decreased;

- there is a small extent of the influence of inflation on the consumption in the period of instability.

Resulted that in the Russian Federation the population traced changes in temporary income and directed all income to consumption. The model shows that households face liquidity constraints. So, they can hardly borrow. This fact forces households to exhaust the resources they have accumulated in previous periods. So, consumers are not able to smooth their consumption over time and their consumer decisions are almost entirely based on current income. It was established that before the crisis there was a positive effect of short-term deviations from the long-term relationship between consumption and income, and after the crisis it was negative. Also, after the crisis, the sensitivity of consumption to long-term trends in income change decreased. It should be noted that consumers considerably determine the influence of the price level on their consumption.

Thus, modelling of consumption under the instability has shown that there was a similar effect of instability and crisis on population consumption in Ukraine, the Russian Federation and the countries of the European Union. the instability did not affect the quality and level of household consumption in the United States, Canada and Japan. This can be explained by the development of the economy, the socio-economic policy of states and social guarantees.

6. Conclusions

Consumption of the population is an integral part of the economy of each country. The better investigation of the economic and social processes in the state is possible by the reviewing consumption in terms of its structural units, in particular, the level of well-being and the standard of living quality of the population. The consumer confidence in the world and in Ukraine under conditions of instability is analyzed. The global trend has improved that is seen by an increase in the consumer confidence index in most countries of the world and by a decline in the percentage of the population who believes that their country is in recession. However, the situation in Ukraine is very different. The consumer confidence index dropped sharply over the past two years, some elements of it reached the 2008-2009 crisis mark. Ukrainians continue to assess the economic situation as a negative one. That could be explained by the difficult macroeconomic situation in the country.

Taking into account the crisis situation in the economy of Ukraine, the purpose of state regulation of incomes and consumption is the social protection of the population from the price growth and commodity deficits in order to guarantee the subsistence minimum of citizens. Based on the comparison of social policy models in the area of living standards in other countries, it should be noted that the model of social policy in Ukraine should represent a symbiosis of liberalism and social orientation. The first one enables, in the absence of sufficient financial resources, the creation of conditions for self-realization and self-sufficiency of economic entities. The second one involves the formation of a rational system of social protection for the population. Building its own model of social policy, Ukraine must do something in common with the German and American models. As for the American model, in 2000, with the help of Americans, a targeted subsidy program was introduced to mitigate the growth of utility fees for the population. This system works well so far. In order to improve the consumer structure of the population, Ukraine must undertake a number of measures aimed at stabilizing the sphere of social protection, regulating income and reforming the pension system (Stavytskyy, 2016).

The models of the consumption growth rate dependency on the growth rates of the permanent and temporary incomes, the rate of inflation and the percentage deviation from the long-term equilibrium correlation in the period of instability based on the samples for different periods was built. The dynamics of the model coefficients show that households in Ukraine are not able to form expectations rationally and their consumer decisions are based only on the possibilities of the current period. Therefore, measures of the economic policy of the state that would have influenced the growth of real incomes in Ukraine already in the current period would lead to a significant increase in demand, which due to the high value of the multipliers would positively stimulate the processes of development of the national

economy. In conditions of social and market transformation, the state must act as a social shock absorber for transformations and, at the same time, pursue an active social policy on the basis of new, market-based requirements. It has been established that instability and crisis in Ukraine, the Russian Federation and the countries of the European Union have had a similar effect on the consumption of population in these states. Instability did not affect the quality and level of household consumption in the United States, Canada and Japan. In these countries, it is necessary to pursue policies and reforms aimed at the consumption increasing, in particular, social policy reforms, social security, reducing the level of differentiation of the population and developing long-term strategies for the development under instability.

7. References

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Table 1. Economic analysis of consumption models coefficients

	USA	Canada	Japan	EU
a_1	During the study period, the coefficient gradually decreased from the level of 0,3 to the level of 0,17. This means that with an annual growth rate of actual income growth by 1%, the growth rate of consumption increased by 0.3% - 0.2%. That is, the US population intended to consume about 20-30% of the changes in current income, which they interpreted as changes in the constant income. Given the stability of the indicator, the conditions of instability did not strongly affect the impact of rising income on the growth of consumption. While just a small share of the change in current income is directed at consumption.	In the period from the 1st quarter of 2008 to the 4th quarter of 2013, the coefficient was approximately 0.7 - 0.8. Therefore, with the increase of the annual actual income growth rate by 1%, the growth rate of consumption increased by 0.7-0.8%. A similar situation is typical for Ukraine in the post-crisis period of 2008-2009. That is, the population in Canada traced changes in temporary income and directed to consumption about 70-80% of the changes in current income, which they interpreted as changes in the constant income.	In Japan, the coefficient was negative. This means that with the growth of the income rate, the consumption growth rate has decreased. It indicates that the growth rate of savings has increased. This fact signifies that the Japanese population has confidence in a constant level of income since it can properly distribute income for consumption and allocate a significant part of it to savings. It should be noted that during the period of instability, the rate of decrease in consumption was somewhat reduced.	The value of the coeff reflects the effect of i consumption in the Union. By 2010, the i negative. It says that th saved more and was co future. After the coefficient was signific set at 2.5. With the ar rate of actual income gr the consumption g increased by 2.5%. Th situation when the p uncertain about the le income and whether can meet current needs excessive consumption
a_2	In all investigated periods, the coefficient has a positive sign, which is not consistent with the theoretical principles of the model (the theory of constant income). Moreover, the estimation of the coefficient increases from the level of 0.2 in 2008-2009 to the level of 0.5 in 2013. This indicates that a reduction in temporary income does not affect consumption in the next period for consumers in the United States. So, having a positive temporary income, consumers do not reduce their consumption growth to the level that was observed in periods when the current income consisted only of constant income, but they continue to increase it at the expense of loans.	The indicator has a negative sign since 2011, which is in line with the theoretical foundations of the model. This means that savings and loans enable households to prevent consumption from being reduced during periods of possible loss of income, on the one hand, and, on the other hand, to increase consumption in periods with a relatively low income. Consumers are smoothing their intermediate consumption.	The coefficient has a positive sign in all periods, which is not consistent with the theoretical principles of the model. This means that the reduction of temporary income does not affect the consumption in the next period in the direction of reduction. Thus, having a positive temporary income, consumers do not reduce their consumption growth to the level that was observed in periods when the current income consisted only of constant income, but they continue to increase it at the expense of loans.	In all periods under coefficient is negative that the growth of income corrects the current consumption, caused by the growth income, towards its dec is consistent with statements. Thus, with of the temporary incom the population is tryin its consumption. So positive temporary consumers do not consumption growth that was observed in p the current income cons constant income, but t to increase it at the loans.
a_3	The rate ranged from 0.8 to 1.1. As in the case of the previous coefficient, the behaviour of this indicator contradicts the theory of constant income. By a positive deviation from equilibrium, households do not reduce consumption in the attempt to adjust it. Consumers increase the share of consumption in income in the current period if this ratio	The coefficient is negative in all investigated periods and is set about -0.10 - (-0.20). This means that Canadian households reduce their share of consumption in the current period if that ratio exceeds the equilibrium level in the previous year. Given the stability of the indicator, we can say that the conditions of instability did not significantly affect the sensitivity of	The coefficient value is positive in Japan. Moreover, the value of the indicator has changed from about 0.90 before the 2008-2009 crisis to 0.60. This means that in the long run, the proportion of consumption from income has decreased. That is, the sensitivity of consumption to the deviations from long-term trends has decreased. It also points to the growth of savings in the country.	Before the crisis of 20 value of the indicator level from -0.2 to -0.4, crisis -0.01 to -0.06. M coefficient is significa all periods under coefficient indicates effect of short-term dev the long-term relations consumption and inc consumers reduce th

	exceeded the equilibrium level in the previous year. This means that in the long-term, the United States population adjusts its consumption not only depending on the level of income but also depending on additional sources of funding: loans.	consumption to deviations from long-term trends.		consumption in inco current period, given t analysis of their incom model shows that due and instability, the s consumption to devi long-term trends has de
a_4	The US population hardly determines the impact of inflation on its consumption during the period of instability. This is due to the constant level of inflation, strong national currency and the fact that inflation does not devalue the assets of the population and the level of their wealth.	Prior to the crisis, the ratio was approximately 0.05, immediately after the crisis (-0.05), and since the 3d quarter of 2011, it was set at 0.03. This means that the impact of the price level on consumption is not significant. However, during the crisis, there was a negative link between the price level and consumption.	The coefficient is significant only in 2013 and counts at 0.01 - 0.02. This means that during the period of crisis and instability, inflationary processes have not significantly affected consumption.	The coefficient in periods was about -0.3 the crisis, it dropped t EU population dete influence of inflati consumption during th instability to a small ex
a_5	The coefficient becomes negative in almost all studied periods. It means that household consumption in the US reacted to the accelerator of inflation. The higher value of it reduced real consumer consumption. Still, such a reaction is negligible, given the value of the coefficient and its significance in the model.	The coefficient is significant only from Q4 2012 and is 0.01. So, the acceleration of the inflation rate does not affect the level of consumption.	The coefficient is significant from the 2nd quarter of 2013 and is set at -0.02. This indicates that households in Japan do not determine the impact of the price level on their consumption.	The coefficient acquire the level of 0.02 - 0.05 investigated periods. S the value of the ac inflation increase consumption. Howev reaction is negligible value of the coefficient.

Source: authors' contribution