

**Institute of European Integration  
(Warsaw, Poland)**



**Instytut Integracji Europejskiej  
(Warszawa, Polska)**

**SOCIAL AND LEGAL ASPECTS OF THE DEVELOPMENT OF  
CIVIL SOCIETY INSTITUTIONS**

Collective monograph

Part I

Warsaw, Poland  
2019

*Recommended for publication by the Program and Scientific Council of  
Institute of European Integration, (№ 5-07, 22.02.2019)*

**Scientific Board:**

*Grażyna Dzwonkowska* – Chairman of the Board of Institute of European Integration, Poland.

*Bogusław Sygit* – Doctor Habilitated of Law, Professor, Uniwersytet Łódzki, Poland.

*Jelena Lukjanova* – Associate Professor, Department of Law, ISMA University, Latvia.

*Mariana Petrova* – Doctor of Science in Physics and Mathematics, Professor, Associate Professor, St.Cyril and St.Methodius University of Veliko Tarnovo, Bulgaria.

*Krzysztof Gaska* – Doctor Habilitated, Professor, Silesian University of Technology, Poland.

*Talgat Uteubayev* – PhD, L.N. Gumilyov Eurasian National University, Republic of Kazakhstan.

*Marzena Smol* – PhD, Mineral and Energy Economic Research Institute, Poland.

**Reviewers:**

*Włodzimierz Kobrzyński* – Doctor Habilitated of Law, Uniwersytet Warszawski, Poland.

*Pukała Ryszard* – PhD, Professor, Bronisław Markiewicz State Higher School of Technology and Economics, Poland.

**Social and legal aspects of the development of civil society institutions:**  
collective monograph. Part I. Warsaw: BMT Erida Sp.z o.o., 2019. 536 p.

ISBN 978-83-950153-7-3

*This collective monograph offers the description and analysis of the formation and development of civil society institutions at various levels of government in the field of politics, economics, education and culture. The authors of individual chapters have chosen such point of view for the topic which they considered as the most important and specific for their field of study. Theoretical and applied problems and the existing legal base of practical activities of civil society institutions in the context of growing interdependence of economic, cultural, demographic, political, environmental processes are investigated. The prospects for the further development of civil society and its institutions, their relations with the state, as well as the promotion of the participation of civil society organizations in socio-economic development.*

**Publisher:** BMT Erida Sp. z o.o.  
erida@erida.com.pl

ISBN 978-83-950153-7-3

*Authors are responsible for the content and accuracy*

Published under the terms of the Creative Commons  
CC BY-NC 4.0 License

© Instytut Integracji Europejskiej, 2019  
© Zespół autorów, 2019

## CONTENTS

<b>Tetyana Shabelnik</b> COMPLEX OF SYSTEM-DYNAMIC SIMULATION MODELS OF MANAGEMENT AND CONTROL OF STOCKS OF PHARMACEUTICAL PRODUCTS.....	6
<b>Iryna Krupenya</b> THE UKRAINIAN CRISIS: A TEST FOR THE RULE OF LAW .....	19
<b>Olha Hulai, Iryna Moroz, Vasylyna Shemet</b> CHEMISTRY KNOWLEDGE COMPETENCES OF TECHICAL UNIVERSITY STUDENTS.....	33
<b>Anatolii Silveistr, Mykola Mokliuk</b> USE OF THE INTERACTIVE WHITEBOARD AT PHYSICS LESSONS FOR STUDENTS OF NON-PHYSICAL SPECIALTIES OF PEDAGOGICAL UNIVERSITIES.....	47
<b>Marina Hrabar, Kashka Mariya</b> TOURIST INTERNET ADVERTISING: CURRENT STATE AND TRENDS OF DEVELOPMENT.....	61
<b>Oksana Voznyuk, Hanna Shayner</b> CONTINUOUS EDUCATION AS A MEANS OF FORMING PROFESSIONAL CULTURE OF FUTURE SPECIALISTS.....	76
<b>Valeriya Yesina, Olga Rudachenko</b> FORECASTING TRENDS FOR DEVELOPMENT OF UKRAINIAN ENTERPRISES OF SPHERES IN MUNICIPAL SERVICES IN MODERN CONDITIONS.....	90
<b>Sergio Smirnov</b> ANALYSIS OF PROFESSIONAL PREPARATION FOR FUTURE OFFICERS OF THE STATE OF ARMED FORCES OF UKRAINE IN THE SYSTEM OF MODERN MILITARY EDUCATION.....	104
<b>Yana Kryvych, Anna Buriak, Kateryna Serdiuk</b> INFLATION AND DEVALUATION EXPECTATIONS AS PUBLIC TRUST INDICATOR TO THE CENTRAL BANK: CASE OF UKRAINE.....	117
<b>Liudmila Batchenko</b> BUSINESS REPUTATION IN BUSINESS PRACTICE: ECONOMIC CONTENT AND EVALUATION.....	134
<b>Serhii Bilan, Lilia Pylypenko</b> BACKGROUND OF UKRAINIAN-POLISH CONTRADICTION.....	148
<b>Valentyna Yakubiv, Myroslava Poliuk</b> STRATEGIC ANALYSIS OF INTRODUCTION OF INNOVATIVE ASSESSMENT METHODS FOR AGRICULTURAL ENTERPRISES WORKFORCE.....	163

**Yana Kryvych**

*Ph.D., Associate Professor,*

*Department of Finance, Banking and Insurance, Sumy State University,  
Sumy, Ukraine*

*orcid.org/0000-0002-3401-0878*

**Anna Buriak**

*Ph.D., Associate Professor,*

*Department of Finance, Banking and Insurance, Sumy State University,  
Sumy, Ukraine*

*orcid.org/0000-0003-2954-483X*

**Kateryna Serdiuk**

*Master's student, Department of Finance, Banking and Insurance,  
Sumy State University, Sumy, Ukraine*

*orcid.org/0000-0002-6348-2014*

---

**INFLATION AND DEVALUATION EXPECTATIONS AS PUBLIC TRUST  
INDICATOR TO THE CENTRAL BANK: CASE OF UKRAINE**

---

***Abstract.** This paper discusses the importance of emotional drivers of decision-making by economic agents for central bank's policy implementation. Consumer and business expectations can be an important leading indicator by providing information about current and future consumption growth. This paper encompasses conceptual framework for understanding inflation and devaluation expectations of business and consumers as public trust indicators in the central bank in Ukraine. It has been highlighted that decline in trust in the central bank means that market participants have doubts about the consistency of monetary policy, its objectives and the professionalism of management. Since one of the reasons for pessimistic economic mood of Ukrainian business and consumers is the lack of public trust in Ukrainian authorities, authors focus on evaluation of the relationship between political trust and trust in the National Bank of Ukraine. Moreover, it was empirically proven close relationship between devaluation expectations of business and trust in the government and the Parliament of Ukraine. Conducting a survey on the business expectations including inflation and devaluation ones is very important as central bank can build monetary policy based not only on real indicators but on expectations also.*

---

**JEL Classification: G20, G21, E50.**

**Introduction.**

The issue of restoring and supporting economic growth remains one of the urgent ones for both advanced and emerging countries. A decade on from the global financial crisis points to low effectiveness of the already taken measures and actions and mismatch of old approaches, methods and instruments of policy-making to the new realities of economic development in the 21st century.

This, in turn, leads to the search and consideration of new determinants affecting the economic development. One of these areas for inclusion in the neoclassical and New-Keynesian economic models (for example, dynamic stochastic general equilibrium) is the behavioral economy studying the influence of cognitive and emotional drivers on decision-making by economic agents and their consequences for the market and policy. The emotional determinant has become widespread with the term “sentiments” defined as “attitude, opinion or judgment based on feelings” and is used to describe the views of the economic agent on future economic development. In turn it is reflected in the current economic decisions and influences future economic dynamics through the waves of optimism and pessimism.

It should be noted that idea of agents’ expectations impact on economy dynamics is not new in economic theory dating back to Beveridge (1909), Clark (1917), Pigou (1927) and Keynes (1936). Nowadays economic expectations (including consumer sentiments and business expectations) can be considered to reflect public trust in the economy. The global financial crisis has been associated with trust crisis featuring credit freeze at many financial markets, the loss of financial institutions’ reputation, lack of transparency in financial reporting, collapse of public confidence and trust [1-4]. Public trust becomes crucial for economic dynamics and financial market activity when legal enforceable contracts are absent and confidence in market structures is undermined. This paper aims to show the essence of economic expectations as an indicator of public trust as well as the rationale for the inflation and devaluation expectations’ usage as an indicator of public trust in the central bank. Moreover, approach to evaluate the relationship of political trust and trust in the National Bank of Ukraine is presented by this paper.

### **1. Economic expectations as an indicator of public mood and trust.**

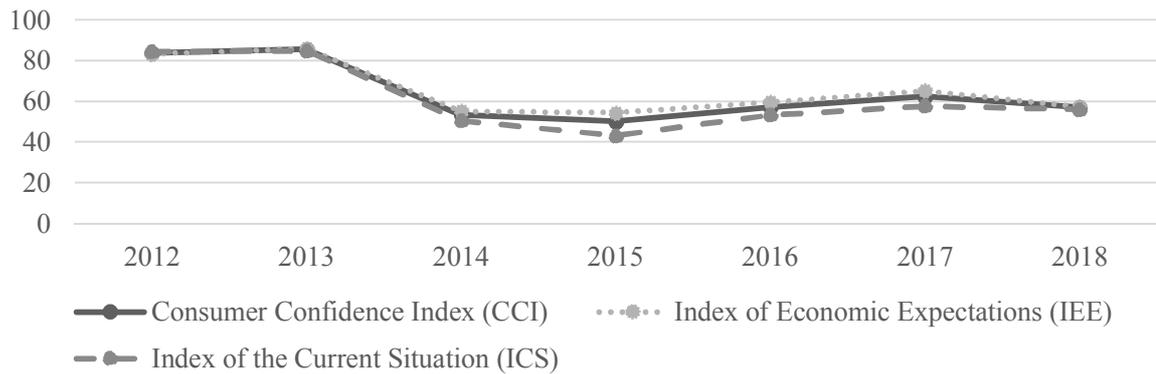
The Consumer Sentiment Index (nowadays widespread as the Michigan Consumer Sentiment Index, MCSI), introduced in 1946 by a professor of the University of Michigan, aimed at research public mood and based on monthly surveys of several hundred respondents in USA. The Central Bank of Philadelphia has been conducting surveys not only among households and firms, but also among expert forecasters on a quarterly basis since 1968. The Central Bank estimates inflation expectations in Philadelphia based on questions about price changes, personal consumer spending and GDP dynamic. European practice of consumer surveys begins in 1985, conducted by the European Commission in general and every member of the European Union in particular. For example, the Netherlands and the European Commission agreed on the consumer confidence index’ s usage to measure Dutch consumers’ views on their own financial circumstances as well as on the development of the Dutch economy in general.

At the same time, the concept of “confidence” as a kind of emotional determinant is used from the standpoint of a rational approach and based on objective information, while the concept of “trust” is predominantly based on the subjective information due to the uncertainty of the economic and social environment and, consequently, irrational behavior [5,6].

Confidence, like trust, is a qualitative category of emotional origin. The high level of confidence of economic agents expresses optimism about the future prospects of the economic development, otherwise – pessimism. Consumer confidence is a key determinant of economic behavior – consumer spending, savings and borrowing. Business confidence forms the basis of business expectations evaluating the development of the enterprise and the factors that have a direct impact on it. In general, they relate to changes in the financial and economic condition of the enterprise and their future economic activity. Expectations' in economics refers to the forecasts or views that agents' decision encompass future prices, sales, incomes, taxes and other key variables.

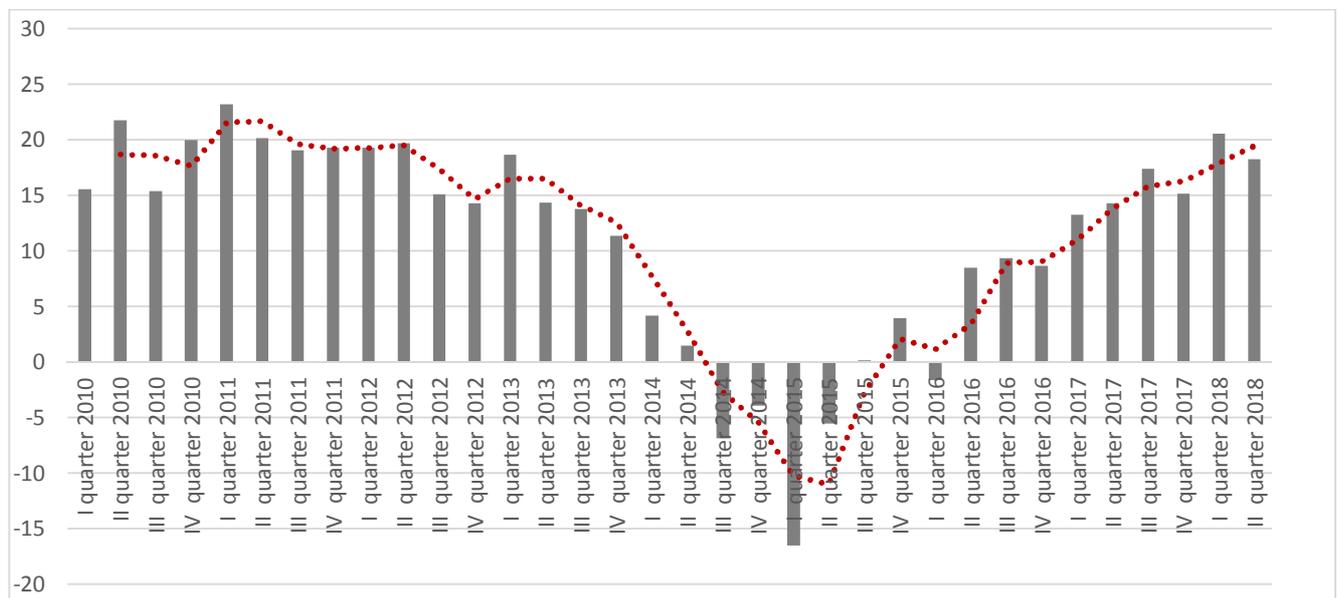
Gfk Ukraine as marketing company, National Bank of Ukraine as central bank, Institute of economic research and political consultation have been conducting research on consumer and business sentiments in Ukraine. National bank of Ukraine is responsible for the research of business sentiments on quarterly basis. It is the source of relevant market information that enables central bank to make smarter decisions in monetary policy. Monetary policy requires operatively and various information, which is not always compiled by the statistics department. In this peculiar way, the Central Bank communicates with the real sector of economy [7]. Gfk Ukraine is responsible for the research of consumer sentiments through the Consumer Sentiment Index. Experts of Gfk Ukraine conduct a survey of consumer confidence identifying the following indexes: Index of Inflation Expectations; Index of Consumer Confidence; Index of Economic Expectations; Index of Expectations of Changes in Unemployment; Index of the Current Situation. Consumer Sentiment Index is calculated as the proportion of positive responses is subtracted from the proportion of negative and in order to avoid the appearance of negative values adding 100 to this difference. The Consumer Sentiment Index calculates the average arithmetic method of the above five indexes [8].

Figure 1 shows the dynamics of consumer confidence of households in Ukraine, determined through a random survey of domestic households. The poll involves 1,000 individuals aged 16+. Due to the political developments in April 2014 Autonomous Republic of Crimea was excluded from the sample of consumer confidence research in Ukraine. In Donetsk and Luhansk regions, surveys were conducted only on territories controlled by Ukraine. As it can be seen all indices of expectations about country's economic development over last seven years experienced the most significant changes. Despite peak of 86% in 2013 the economic expectations of Ukraine's households are 57.5% in 2018. This reflects the critical attitude of the population to the current economic situation in the country and households' confidence in the economy of Ukraine is falling every year. A number of factors, such as a sharp increase in gas price and other housing and communal services, wage arrears, inflation growth and national currency's devaluation had a negative impact on consumer confidence last year pointing pessimistic mood of consumers in Ukraine.



**Fig. 1. Dynamics of the Consumer Confidence Index in Ukraine [8]**

Business expectations index, based on enterprises survey results of the prospects of their development in the next 12 months, is used by investors on financial markets, entrepreneurs planning their activities and authorities by making decisions through economic policy implementation. The index of business expectations for the third quarter of 2018 was about 117.2%, the lowest index was registered in 2014 (96.1%), while the peak of negative economic sentiments of business was observed from the third quarter of 2014 to the third quarter of 2015 (Figure 2).

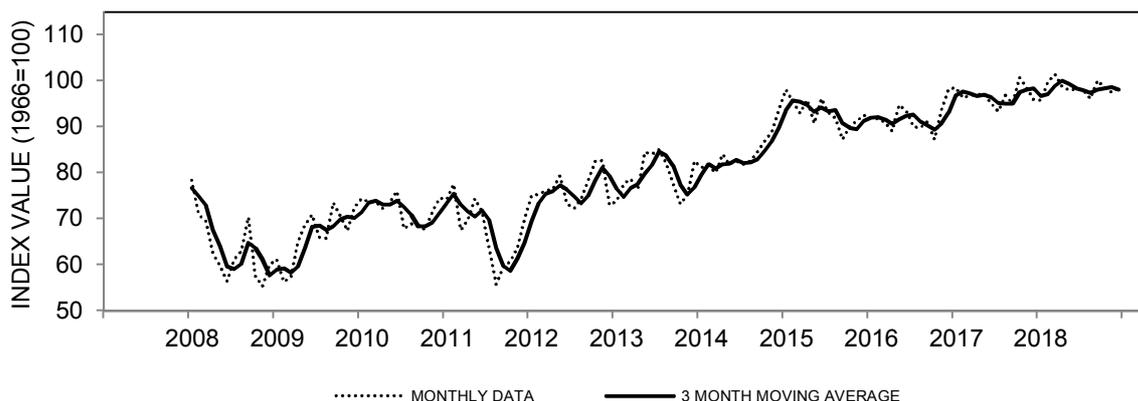


**Fig. 2. Dynamics of the business expectations index in Ukraine [7]**

Firstly, for seven years there was a sharp decrease for all indicators of business activity of enterprises in Ukraine in March 2014. Enterprises were not able to increase their production, most of all it was affected by the unstable political situation, significant fluctuations in the national currency exchange rate and too high prices for energy, raw materials and other materials.

Figure 3 shows the data from the University of Michigan. Consumer confidence in December of 2018 remains at the same record levels as in previous months. The Consumer Sentiment Index is 98.4% on average in 2018, which is the best indicator for the latest research periods for the United States of America. According to data from the German marketing company GfK the consumer climate index in Europe reached highest level since 2007.

The Consumer Sentiment Index is positive, especially among consumers in Spain and Italy, and less level of trust is expressed in Germany, France and Belgium.



**Fig. 3. Dynamics of the Consumer Sentiment Index in USA [9]**

During the last quarter of 2014, the growth of employment and the decline in oil prices led to an increase in household income to a level that was not observed before the crisis. At the same time, low energy prices contributed to the growth of consumer confidence also. Thus, the economic mood of Ukrainians is low, and one of the reasons for this is the lack of public trust in Ukrainian authorities. Consumer and business expectations can be an important leading indicator by providing information about current and future consumption growth. Monitoring consumer sentiments and business expectations can be useful for policy makers.

## **2. Inflation and devaluation expectations an indicator of public trust in the central bank.**

The functioning of economic institutions in a democratic society, including central banks, requires public trust. Trust in economic institutions is particularly important in times of crisis when uncertainty about further development is growing. At the European Union level citizens' trust in national central banks has reached a historic low level since September 2008 – about 38%. Among European countries, the lowest level of trust is observed among Greek citizens, where only 13% respondents trust financial institutions, namely the ECB; trust is low among German residents also – only 38%. But trust in the ECB in the post-crisis period exceeds the actual level of confidence in national governments and parliaments that were already low before the financial crisis.

For the central bank policy, the level of public trust serves as an institutional limitation in case of its low level or as a stimulator for the effectiveness of monetary policy – in the case of a high level of public trust.

The mechanism of public trust influence on the independence of central banks is underlined in the study of Berggren N. [10], where it is empirically proven that the independence of the central bank is a requirement of society: in countries with high levels of trust between citizens, it is easily achievable in the conditions of power delegation to an independent body, and in countries with low level of trust - it is an instrument (institution) that guarantees achievement of goals in the conditions of mistrust to politicians. Therefore a positive correlation between the level of public trust and the independence of the central bank is proven.

Moreover, public trust in the central bank as an economic and political institution of the country is of great relevance also. This is explained by the fact that, firstly, reputation and credibility in the conduct of monetary policy is quite significant (Finn Kydland and Edward Prescott, 1977) [11] and R. Barro and D. Gordon (Robert Barro and David Gordon, 1983) [12]. A low level of trust is a significant obstacle for monetary policy developers.

Besides, loss of trust can provoke reducing the functionality of the central bank and political support leading to strengthening state control over monetary policy. Trust in the central bank defines the limits of the legitimacy and political independence of this financial institution. A certain level of public trust in central banks can be decisive for maintaining their legitimacy. In this case, a high level of public trust in the central bank can be characterized as a basis for raising the level and guaranteeing the independence of the central bank. Consequently a reduction in trust could endanger the independence of the central bank. Loss of trust in the central bank will make it vulnerable to political influence as well as reduce the effectiveness of monetary regulation. Based on these conclusions, it is important for monetary policy makers to understand and identify the determinants that caused loss of public trust. The importance of assessing the trust in central bank is driven by the fact that it should ensure the stability of the national currency, minimize inflation in order to create favorable conditions for economic growth and promote the development of the banking system. Trust in the central bank implies confidence of respondents in achieving their goals of monetary policy [13].

Among the key determinants of public trust in central bank are macroeconomic and social ones. Macroeconomic factors represented by “traditional” macroeconomic variables including inflation, unemployment, and per capita GDP. The appropriateness of the chosen factors is determined by the functional power of central banks: in the case of inflation – in most countries, the main goal of the central banks is to ensure price stability, therefore citizens are convinced that the central bank is responsible for reaching the planned level of inflation, and therefore the deviation of inflation from the planned target in theory has a negative impact on the credibility of the central bank.

In the case of per capita GDP growth and unemployment, the secondary goal of the functioning of central banks is to promote a common economic policy, such as “balanced economic growth” and “full employment”. Thus, it can be assumed that citizens believe that the responsibility of the central bank also extends to the rate of change in GDP per capita and unemployment, and consequently the growth of unemployment and the decrease of GDP per capita growth can have a negative impact on the trust in the central bank. Most scholars include classical macroeconomic variables in their models [14, 15]. In the models proposed by researchers, confidence in the ECB is assessed as a function of inflation, GDP per capita growth, unemployment and other important control variables.

According to a research by F. Roth, D. Gros, F. Novak-Lehmann D. [16], as predicted theoretically, it was proven that GDP growth per capita positively affects trust in the ECB, and inflation and unemployment are negatively affected. Growth of GDP per capita by 1% increases trust in the ECB by 1.4%, and the rise in inflation and unemployment reduces it by 0.65% and 1.99% respectively. However, the impact of economic growth depends entirely on the pre-crisis period, and the impact of inflation and unemployment is exclusively due to the crisis period. So, researchers have proposed ways to increase trust in the ECB changing the main goal of ECB activities – guaranteeing price stability in order to ensure the realization of its secondary goal aims to promote economic growth and employment. In future ECB must ensure an efficient balance between financial and price stability to promote economic growth and employment.

Similar results are presented by S. Valti [17] concluding that higher unemployment and a decline in inflation rates from the planned, consistent with price stability, also reduce trust in the central bank. Raising the unemployment rate by one percentage point reduces the net trust level to approximately equivalent amount, and the deviation of one percentage point of inflation, which is consistent with price stability, reduces the net confidence level by 1.5 percentage points.

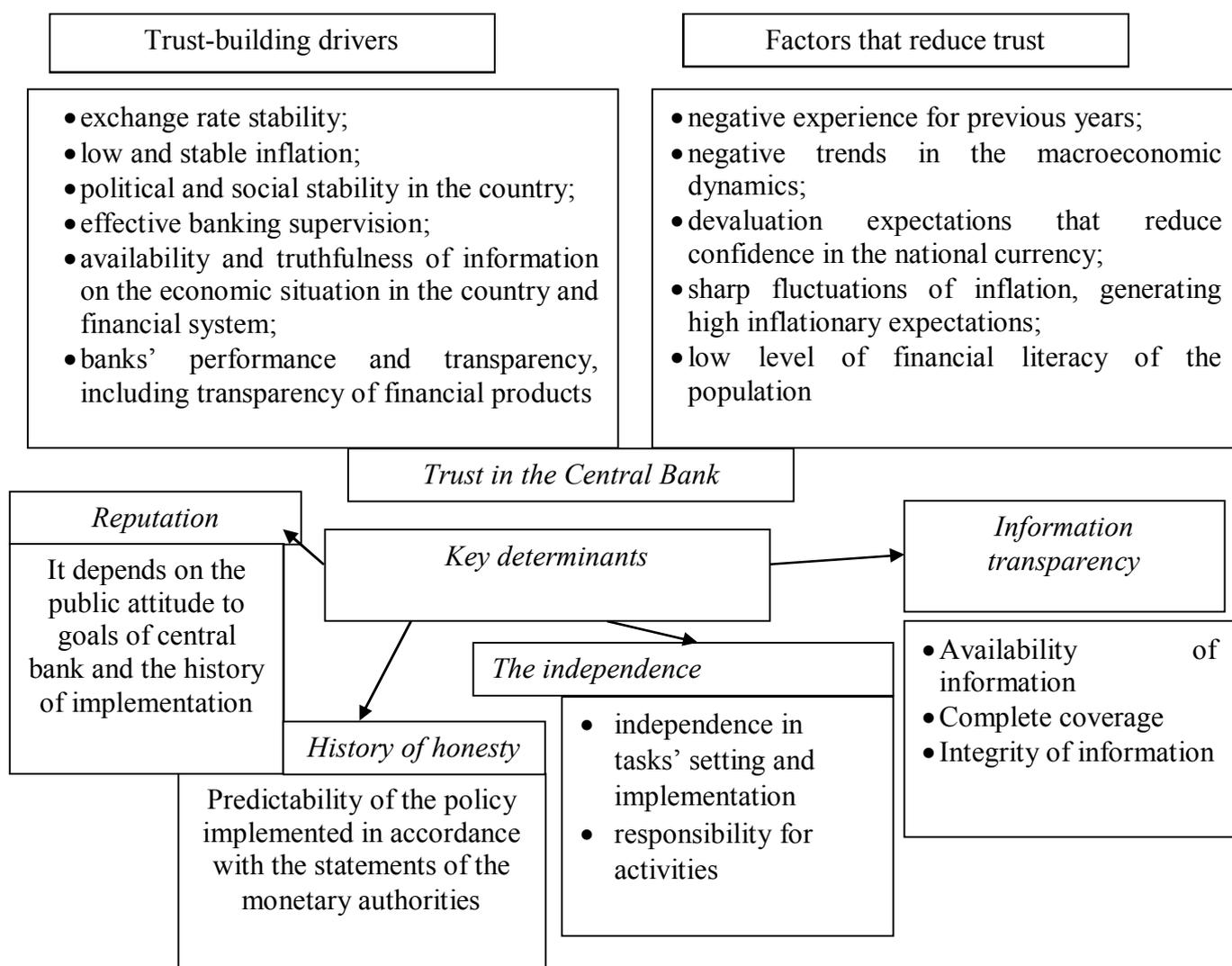
Some results [14] clearly show that the level of current inflation is important for public trust in the ECB. Data from the calculations carried out by researchers show that, unlike expectations, the change in unemployment is not largely due to trust in the ECB. This is due to the fact that people's assessment of changes in the level of unemployment may be different, which is due to the initial level of unemployment in the economy. For example, an increase of 2 percentage points can be regarded as disastrous in an economy in which the unemployment rate was 2% before. That is, for this country, in fact, there will be a doubling of the absolute number of unemployed. On the contrary, an economy in which about 20% of the unemployed can not worry about an increase of 2 percentage points, resulting in a relative change of only 10%. Therefore, as the researchers point out, only the level of unemployment has a significant impact on the credibility of the central bank, but not its change.

According to Dirk Bursian and Sven Fürth research [18], the results of the study show that real GDP growth has a positive effect on the credibility of the central bank, while public debt, government bond yields, and unemployment are negatively linked to trust. In particular, an increase in real GDP growth by 1.0% means an increase in the trust in the ECB by 1.0%. The growth of public debt reduces the expected probability of confidence. For example, an increase in the Italian relative public debt from 106 per cent in 2008 to 119 per cent in 2010 would mean a decline in trust of about 1.3 per cent. With regard to the yield of government bonds, the propensity to trust in the central bank is reduced by 3.0%, taking into account the increase in yield by 1%. An increase in the unemployment rate by 1 percent leads to a 1.2 percent decline in trust in the ECB. However, it is surprising that inflationary deviations from the target level do not play a role in building trust among citizens in the central bank. Overall, the results of the study show that trust in the ECB can be enhanced by improving the overall macroeconomic conditions in European countries.

To sum up, the higher level of unemployment and the deviation of the inflation rate from the planned level, which corresponds to price stability, reduces net trust. And the growth of GDP per capita only increases public trust in the central bank. It is worth not forgetting that almost all countries of the world felt the impact of the financial crisis. As most scholars state, the level of trust has declined significantly during periods of financial crisis, so it can be assumed that the negative experience of the crisis has at least two negative consequences. Firstly, it reduces trust in the financial sector threatening financial stability. Secondly, it provokes decreasing in overall confidence which can reduce economic growth. Therefore, an effective balance between financial and price stability should be guaranteed to increase the level of trust in central banks, which, however, depends on the level of inflation, GDP and unemployment.

In Ukraine the issue of public trust in political and economic institutions is quite important. According to the results of a national research [19], starting from the end of 2015, the balance of trust/distrust in Ukraine to all institutions either unchanged, or on the contrary worsened. According to the survey, the citizens of Ukraine show the greatest distrust to the highest authorities including the National Bank of Ukraine. The level of trust in the National Bank of Ukraine is extremely low according to opinion polls. Over the past three years, the level of trust has decreased from 16.1% in 2016 to 14.1% in 2018. The decline in trust in the National Bank of Ukraine is determined by low public trust in commercial banks. Besides, main trust determinant of the National Bank of Ukraine remains its actions. During last five years National bank of Ukraine has been conducted a policy of “cleaning up the banking system”, the results of which were a reduction in the number of banks by more than half. Another factor that will also affect to the level of trust of the NBU is the depreciation of the national currency more than three times. The low level of trust has continued since the 2008 financial crisis. Figure 4 shows determinants affecting the level of trust in the National Bank.

Inflation and devaluation expectations are important in assessing public trust in the National Bank of Ukraine. The decline in trust in the central bank means that market participants have doubts about the consistency of monetary policy, its objectives and the professionalism of management. When the strategy of the central bank is transparent and clear, the regulator deserves trust and the market expects that its actions will match with the stated goals [20]. The relevance of the expectations' research lies in the fact that the inflation and devaluation expectations and inflation rates and the exchange rate in particular are valuable for economic development and the social standards of living. Expectations are a determinant of the actual level of inflation and the exchange rate of the national currency playing a crucial role in the central bank's analysis of the current situation in the economy. This gives the opportunity to predict the future value of inflation and the dynamics of the national currency [22, p. 34]. Therefore, it is important to monitor the mood of economic agents in the context of monetary policy implementation.



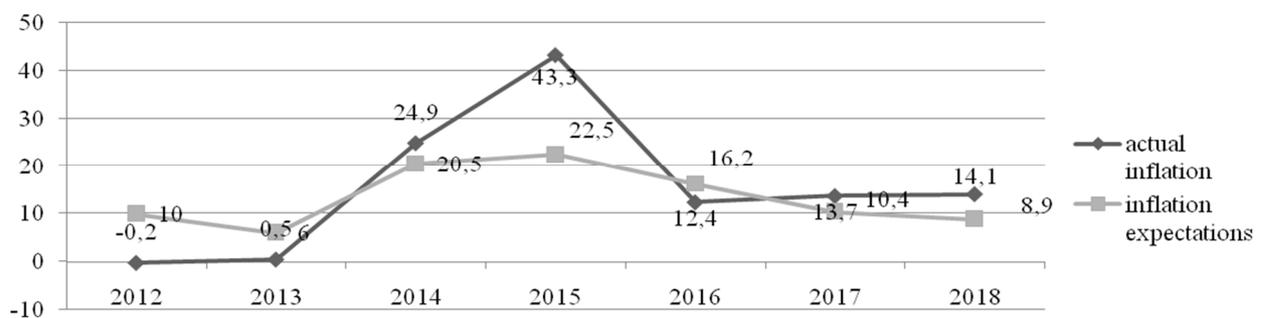
**Fig. 4. Determinants affecting the level of trust in the National Bank of Ukraine [13, 21]**

Inflation expectations are an important component for determining the short-term dynamics of inflation. If they are not managed, they can become self-sufficient and this will lead to significant losses for the economy. At that time, long-term inflation expectations become an indicator of economic agents' trust in the National Bank. If the central bank has public trust, then it will be enough to carry out a small containment of monetary policy. While central banks, which are not trusted, on the contrary, need their policies to be directed in such a way as to influence these inflationary expectations [23].

Expectations in the economy are heterogeneous and show the extent to which they differ from the price level of the inflation target, and therefore affect the credibility of monetary policy. When these deviations are small, symmetrical and are near the target, it is much easier to change the situation: just increase the time horizon of the analysis. However, in the case of large economic shocks, the deviation can be so large that it can lead to a loss of trust in monetary policy.

In recent years, in addition to inflation expectations, the level of business expectations is also influenced by devaluation. In addition, the change in the exchange rate is also considered one of the factors affecting the level of inflation expectations. The central bank calculates the proportion of respondents, who expects depreciation of the national currency – hryvnia and determines the average projected value of the hryvnia to the dollar for the next period based on the results of surveys. Devaluation expectations are important for the analysis, especially in the last 3-4 years, when the hryvnia exchange rate changed every day and gained a record high value.

The devaluation expectations are mainly driven by seasonality, psychological factor (expectations of the population and business about the future e through the exchange rate values determined by the budget), and to some extent, the tactical mistakes of the government and the central bank. Figure 5 shows the dynamics of the inflation expectations index and actual inflation over the past seven years Ukraine.

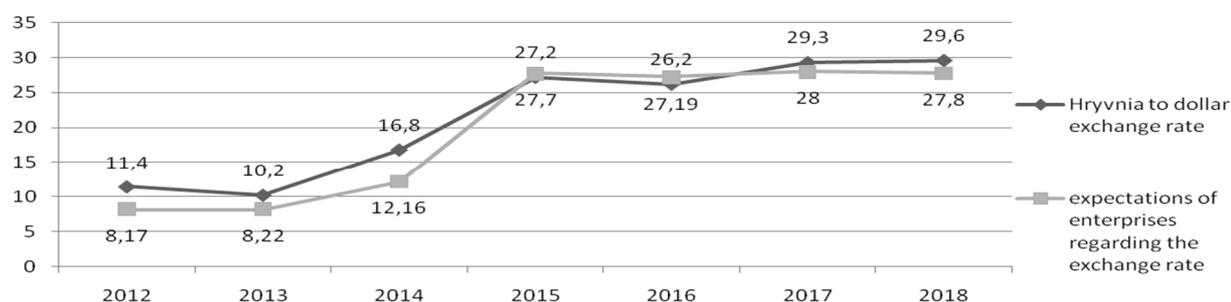


**Fig. 5. Dynamic of inflation and inflation expectations of Ukrainian business [7]**

The graph shows that business expectations for changes in inflation in the future reflecting the actual changes in inflation over the period under review. Since 2013, inflation expectations have sharply risen, reaching their peak in 2015. Negative inflation

expectations and actual inflation began to subside during the transition from active military aggression to the frozen phase of the military conflict. Since 2016, the situation has almost stabilized, but the general trend of perception of future changes in the country remains moderately pessimistic. Next, we compare the index of devaluation expectations and the dynamics of the actual hryvnia exchange rate to the dollar in Ukraine over the past seven years (Fig. 6).

Correlation analysis between real inflation and business expectations for inflation as well as between the expected hryvnia exchange rate and the real one finds that correlation between these indicators is high (81% and 98%, respectively) indicating that there is a statistical relationship between these two values.



**Fig. 6. Dynamic of exchange rate and devaluation expectations of Ukrainian business [7]**

### **3. Political trust and trust in the National Bank of Ukraine linkages: approach for evaluation.**

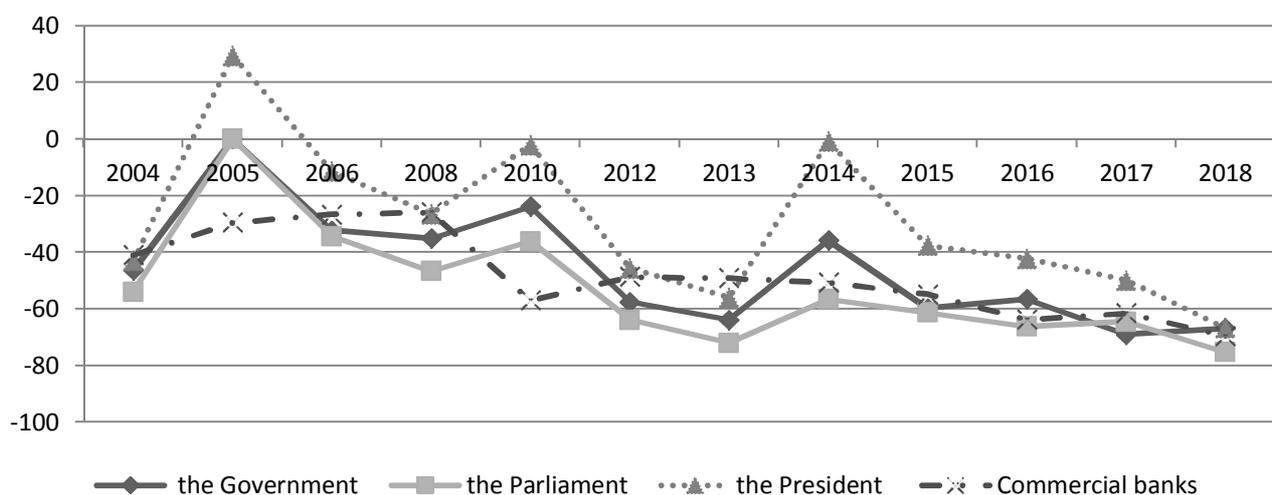
As already mentioned, inflation expectations of economic agents play an important role in setting prices and forming actual inflation. Therefore, it is of great importance to analyze the determinants of inflation expectations. The key determinants are the exchange rate of the hryvnia and business expectations about production costs increasing. The socio-demographic factors are vital also, for example, small businesses with low incomes usually expect inflation to rise. An important factor that has a negative impact is the financial literacy of respondents. Although the latter factor can and should be influenced, because it affects not only the effectiveness of the survey results, but also the citizens' awareness in macroeconomic issues.

From a psychological point of view, many respondents are more likely to remember the increase in prices for goods and services than the decline in prices or slowdown in their growth for other goods and services. This makes inflation expectations are often too high. Public confidence in the conduct of monetary policy is limited, as the memory of citizens periodically happened macroeconomic shocks: crises, devaluations, defaults, bankruptcies of credit institutions, different changing rate of interest etc. [24, p. 44-46].

In the analysis of trust and monetary policy, inflation expectations can ignore other important features of the inflation process, such as relative prices, especially for food and energy, which are outside the direct control of the central bank [25, p. 19]. Since inflation and the exchange rate are macroeconomic indicators, we consider it necessary to analyze their relationship with such indicators like GDP, consumer prices and producer prices, incomes and the exchange rate of currency. As a result of the correlation analysis, the relationship between these indicators and devaluation expectations is very high, the closest relationship is observed between expectations regarding the exchange rate and GDP. In the situation with inflation expectations, they are closely related only to the level of inflation.

At the same time, recent researches indicate a weak link between the level of institutional trust and socio-economic dynamics in Ukraine. This indicates the predominant influence of domestic political rather than socio-economic determinants of trust. This fact is confirmed by the results of international studies also indicating that the level of trust in institutions and the state in emerging countries is much lower than in advanced countries. Therefore, empirical confirmation of the relationship between political trust and trust in the National Bank of Ukraine becomes of great importance.

For Ukraine, the issue of trust in the government, the parliament of Ukraine, the President, commercial banks, as the main representatives of the banking system, is very important, especially when it comes to the basis of business expectations. Figure 7 demonstrates survey data on institutional trust in Ukraine by calculating general balance of trust for each institution.



**Fig. 7. Balance of trust in the government, the Parliament, the President and commercial banks in Ukraine, % [19,23]**

The balance of trust was calculated as follows: the sum of the answers in the categories “Predominantly trust” and “Quite trust” was deducted from the sum of the answers in the categories “I don’t trust at all” and “Mostly I don’t trust”.

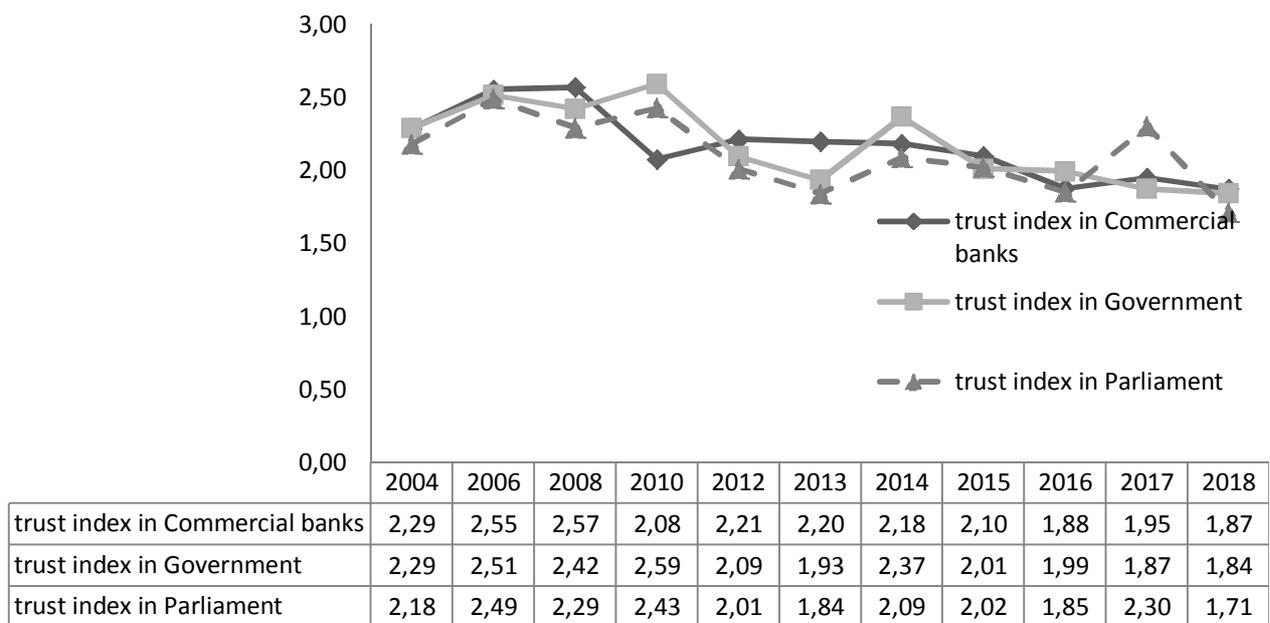
Thus, the balance of trust can be either positive or negative, depending on what is greater: the level of trust or distrust. Analyzing the results shown in figure 7, it can be concluded that trust indicator in the President is changing most dynamically. At the same time, there is an improvement in the dynamics of trust in all institutions after the elections of both the President and the Parliament and the government. So after elections the government receives a credit of public trust, which in the period between elections is rapidly decreasing. The highest level of trust in these institutions is observed from 2006 to 2010 and after the change of power in 2014. Therefore, it can be argued that the level of trust in the government is largely the result of trust in presidents. As for the trust in commercial banks, their balance is much smaller than in other structures considered with decreasing trend. Trust issues are closely linked to the central bank's issues – if the problem of distrust appeared in the bank, it is, first of all, the problem of higher authorities. The factors contributing to the deterioration of public trust in banks can be divided into macro- (based on the experience of the past years, the development of the banking system as a whole, the deterioration of the main monetary indicators) and micro-level factors (based on the activities of each individual bank will depend on the quality of service and transparency of the bank's policy).

The national Academy of Sciences of Ukraine offers various indicators for the analysis of the survey on trust in different institutions. One of the common indicators is the trust index, which is calculated by the following way [19]:

$$J_g = \frac{5a_1 + 4a_2 + 3a_3 + 2a_4 + a_5}{100}, \quad (1)$$

where  $J_g$  – Trust index;  $a_1$  - share of those who fully trust the institution,  $a_2$  - share of those who partially trust the institution,  $a_3$  - share of those who are undecided,  $a_4$  - share of those who do not trust the institution,  $a_5$  - share of those who partially do not trust the institution.

Trust index is calculated on a 5-point scale and presented by Figure 8. There is decreasing trend of the index from 2.29 points to 1.87 points for commercial banks and 1.85 points for the Government every year, and the index for the Parliament has changed most dramatically: from 2.18 points in 2004 to 1.71 points in 2018. After checking the relationship between real inflation and exchange rates with business expectations, we analyze the relationship of trust in institutions and expectations. Table 1 presents the results of the correlation analysis separately for each institution and by category of responses. We can conclude that the closest relationship with significant coefficients is between devaluation expectations and trust in the government and the parliament of Ukraine, although for commercial banks the figure is also quite high. Moreover, the highest coefficient concerns the category of “do not trust”, and back a strong connection to the category of the part of the respondents who cannot be determined. Since the balance of trust in institutions during the analyzed period was usually negative, it is obvious that the category of people who do not trust at all has the closest connection in the correlation analysis.



**Fig. 8. Trust index for commercial banks, the government and the Parliament of Ukraine**

Thus, the indicator of correlation ratio is probable, and the relationship is proved. To sum up, the need to conduct a survey on the business expectations is very important as National Bank of Ukraine can analyze and forecast indicators for the next year, and build monetary policy based not only on real indicators but on expectations also. The analysis showed that expectations are closely related to the real indicators of inflation and the exchange rate of currency.

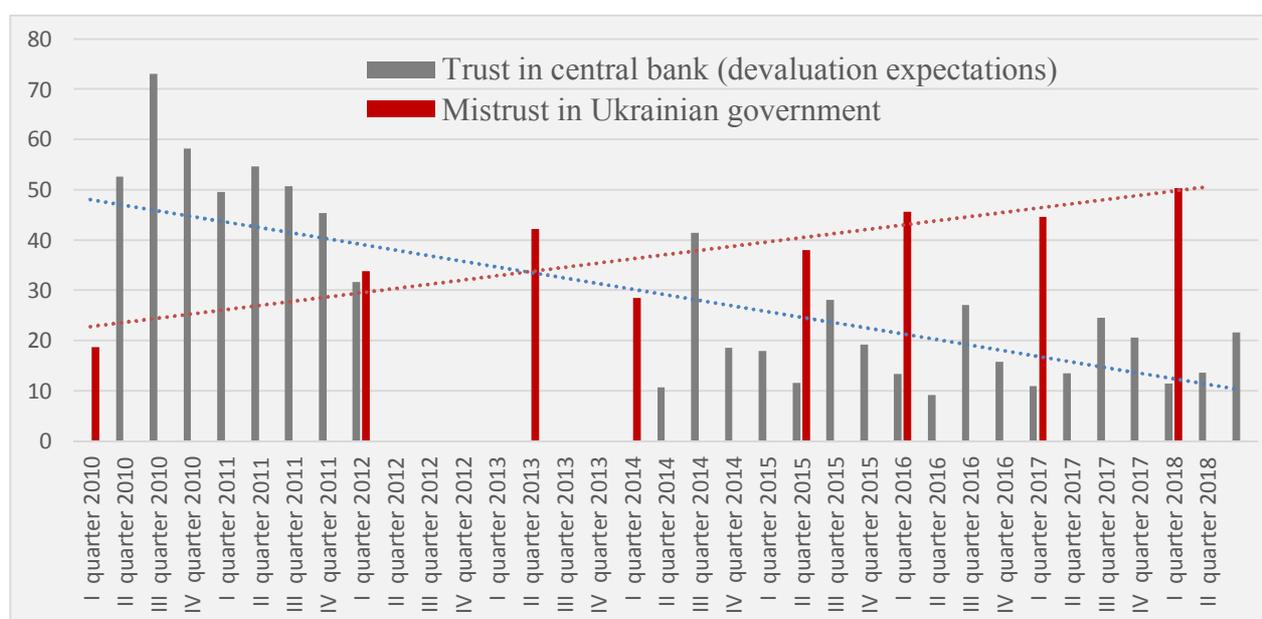
**Table 1. The results of correlation analysis between Ukrainian business and trust in institutions**

	Inflation expectation	t-criteria (tabl =2,30)	Devaluation expectations	t-criteria (tabl =2,30)	Business expectations	t-criteria (tabl =2,30)
<i>Commercial banks</i>						
I don't trust	-0,16	-0,45	0,63	2,29	0,31	0,92
Mostly don't trust	-0,13	-0,37	0,39	1,20	0,27	0,79
Hard to say trust or not	0,21	0,60	-0,65	-2,42	-0,40	-1,23
Predominantly trust	0,06	0,17	-0,49	-1,59	-0,01	-0,03
Quite trust	-0,32	-0,95	-0,09	-0,26	0,39	1,20
<i>Government</i>						
I don't trust	-0,29	-0,86	0,88	5,24	0,07	0,20
Mostly don't trust	-0,44	-1,39	0,40	1,23	0,33	0,99
Hard to say trust or not	0,30	0,89	-0,82	-4,05	-0,19	-0,55
Predominantly trust	0,36	1,09	-0,42	-1,31	0,01	0,03
Quite trust	0,19	0,55	-0,61	-2,18	0,17	0,49
<i>Parliament of Ukraine</i>						
I don't trust	-0,31	-0,92	0,88	5,24	0,05	0,14
Mostly don't trust	-0,16	-0,46	0,37	1,13	0,10	0,28
Hard to say trust or not	0,30	0,89	-0,83	-4,21	-0,15	-0,43
Predominantly trust	0,00	0,00	-0,25	-0,73	0,35	1,06
Quite trust	-0,28	-0,82	-0,26	-0,76	0,39	1,20

The analytical part of this research confirmed a direct link between the increase in inflation and the exchange rate of the national currency and the trust level in the government, the Parliament and commercial banks of Ukraine (Fig.9). High fluctuations in the analyzed indicators provokes deterioration in public trust in the government and the Parliament, and somewhat less – in commercial banks.

### Conclusions.

Cognitive and emotional drivers of decision-making by economic agents are important for implementation of many government policies and programmes. They can be an important leading indicator by providing information about current and future consumption growth. Economic expectations (including both consumer sentiments and business expectations) can be considered to reflect public trust in the economy. Analyzed data point that economic mood of Ukrainians is mainly pessimistic, and one of the reasons for this is the lack of public trust in Ukrainian authorities. Monitoring consumer sentiments and business expectations can be useful for policy makers.



**Fig. 9. Political trust and trust in the National Bank of Ukraine linkages**

Trust in central bank is particularly important in times of financial fragility and necessity of price instability to create favorable conditions for economic growth and promote the development of the banking system. Loss of trust in the central bank will make it vulnerable to political influence as well as reduce the effectiveness of monetary regulation. Inflation and devaluation expectations are of great relevance during assessing public trust in the National Bank of Ukraine. The decline in trust in the central bank means that market participants have doubts about the consistency of monetary policy, its objectives and the professionalism of management.

Conducted correlation analysis between inflation and the exchange rate with GDP, consumer price index and other determinants revealed the impact of political factor (trust in political institutions) on both devaluation and inflation expectations. It was found a direct link between the increase in inflation and the exchange rate of the national currency and the trust level in the government, the Parliament and commercial banks of Ukraine. Moreover, it was empirically proven close relationship between devaluation expectations and trust in the government and the Parliament of Ukraine. So, the need to conduct a survey on the business expectations is very important as National Bank of Ukraine can analyze and forecast indicators for the next year, and build monetary policy based not only on real indicators but on expectations also.

### **Funding Acknowledgements.**

This work would not have been possible without the financial support of the Ministry of Education and Science of Ukraine. The paper was prepared as part of the Young Scientist Research on the topic "Economic-mathematical modeling of the mechanism for restoring public trust in the financial sector: a guarantee of economic security of Ukraine" (registration number 0117U003924).

### **References.**

1. Schatz, R., & Watson, L.A. (2011). *Trust Meltdown II*. Fribourg: INNOVATIO Publishing Ltd.
2. Roth, F. (2009). Does too much trust hamper economic growth? *Kyklos*, 62(1), 103–128. DOI: 10.1111/j.1467-6435.2009.00424.x.
3. Gros, D., & Roth, F. (2010). The Financial Crisis and Citizen Trust in the European Central Bank. *CEPS Working Document*, 334.
4. Sapienza, P., & Zingales, L. (2012). A trust crisis. *International Review of Finance*, 12 (2), 123–131. DOI: 10.1111/j.1468-2443.2012.01152.x.
5. Tonkiss, F. (2009). Trust, confidence and economic crisis. *Inter economics*, 44(4), 196-202. DOI: 10.1007/s10272-009-0295-x.
6. Akerlof, G., & Shiller, J.R. (2009). *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism*. Princeton: Princeton University Press.
7. National Bank of Ukraine. Retrieved from: <https://bank.gov.ua>. [in Ukrainian].
8. GfK. Growth from Knowledge. Retrieved from: <https://www.gfk.com>. [in Ukrainian].
9. Surveys of consumers. *University of Michigan*. Retrieved from: <http://www.sca.isr.umich.edu>.
10. Berggren, N., Daunfeldt, Sven-O., & Hellström, J. (2012). Social trust and central-bank independence. *IFN Working Paper*, 920. Retrieved from: <http://www.ifn.se/wfiles/wp/wp920.pdf>.

11. Kydland, F., & Prescott, Edw. (1977). Rules Rather than Discretion: The Inconsistency of Optimal Plans. *Journal of Political Economy*, 85(3), 473-492.
12. Barro, R., & Gordon, D. (1983). Rules, Discretion, and Reputation in a Model of Monetary Policy. *Journal of Monetary Economic*, 12, 101-121.
13. Dryhov, O. (2013). Modern aspects of the formation of public confidence in the National Bank of Ukraine. *Bulletin of the NBU*, 15(1), 32-35. [in Ukrainian].
14. Fischer, J.A.V., & Volker, H. (2008). Determinants of Trust in the European Central Bank. *Stockholm: SSE/EFI Working Paper Series in Economics and Finance*, 695..
15. Nannensted, P., & Paldam, M. (1994). The VP-function: A survey of the literature on vote and popularity functions after 25 years. *Public Choice*, 79, 213-245..
16. Roth, F., Gros, D., & Nowak-Lehmann, D. (2012). Felicitas: Has the financial crisis eroded citizens trust in the European Central Bank? Panel data evidence for the Euro area, 1999-2011. *Center for European Governance and Economic Development Research, Discussion Papers*, 124.
17. Wälti, S. (2012). Trust no more? The impact of the crisis on citizens trust in central banks. Elsevier: *Journal of International Money and Finance*, 31(3), 593-605.
18. Bursian, D., & Fürth, Sv. (2013). Trust me! I am a European Central Banker. *SAFE Working Paper Series*, 31. DOI: 10.2139/ssrn.2320447.
19. Attitude of citizens of Ukraine to public institutions, electoral orientations: results of sociological research. *Kyiv: Razumkov Center*. Retrieved from: <http://razumkov.org.ua> [in Ukrainian].
20. Turchin, L.E. (2012). Theoretical aspects of building confidence in the banking system. *The economy and the state*, 12, 90-92. [in Ukrainian].
21. Malarchuk, O.V. (2016). Trust as an important factor in the effectiveness of monetary policy in Ukraine. *Financial space*, 1(21), 24-29. [in Ukrainian].
22. Loleit, A. (2009). Inflation expectations of economic agents in Russia. Moscow: *Economic policy*, 34-59. [in Russian].
23. Paraskevin, M.A. (2016). *Results of annual monitoring surveys 1992-2016*. Kyiv: Ukrainian society. [in Ukrainian].
24. Perevyshin, Ju.N., & Rykalin, A.S. (2018). Modeling of inflation expectations in the Russian economy. Retrieved from: <ftp://w82.ranepa.ru/rnp/wpaper/031816.pdf> [in Russian].
25. Sousa, R. & Yetman, J. (2016). Inflation expectations and monetary policy. *BIS Papers*, 89, 41-67. Retrieved from: [https://www.bis.org/publ/bppdf/bispap89d\\_rh.pdf](https://www.bis.org/publ/bppdf/bispap89d_rh.pdf).