“Growing discoordination between monetary and fiscal policies in Ukraine”

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GROWING DISCOORDINATION BETWEEN MONETARY AND FISCAL POLICIES IN UKRAINE

Abstract

The slowdown in economic development caused by the reduction in the efficiency of the functioning of state institutions determined the focus of the governments of most countries of the world on achieving sustainable economic growth, as well as ensuring macroeconomic and macrofinancial stability. A major issue that is dealt with is the weakening of the interaction of monetary and fiscal policies in Ukraine. It can be assumed that one of the reasons hindering economic growth is growing discoordination between monetary and fiscal policies. The purpose of this study is to assess the nature of monetary and fiscal policies in Ukraine in 2000–2017 and justify the need for coordination between them to stimulate economic growth. For the quantitative assessment of the influence of monetary and fiscal factors on GDP, the models of autoregression with distributed lags – ARDL are used. The analysis makes it possible to distinguish and characterize three stages of combining the rigid and stimulating monetary and fiscal policy in Ukraine in 2000–2017. The article examines the influence of the dynamics of the monetary aggregate M3, the inflation rate and the weighted average base interest rate on the growth rates of real GDP in Ukraine, the impact of using the "monetary clamp" effect on the increase in the NBU's interest rate, and the direct effect of monetary factors on the fiscal policy. The authors conclude that the inconsistency of monetary and fiscal policies is one of the reasons for the high volatility of macroeconomic indicators. The article substantiates the conclusion that it is necessary to overcome the increasing antagonism between monetary and fiscal policies in Ukraine and to strengthen their coordination.

Keywords central bank, monetary-fiscal policy coordination, economic growth, Ukraine

JEL Classification E58, E61 E69

INTRODUCTION

After the global financial crisis of 2008–2009, the governments of most countries of the world pay special attention to maintaining sustainable rates of economic growth and ensuring macroeconomic and macro-financial stability. The world and the regional financial and banking crises, as well as trade wars exacerbate the situation, increasing the instability of both government finances and banking systems, which ultimately holds back economic growth. So, according to the IMF, in 2010–2017 the average growth rate of world GDP was 3.8%. At the same time, in the EU countries, the growth rate of GDP decreased from 2.5% in 2010 to 2.1% in 2017, and in developing economies the growth rate of GDP decreased from 5.8% in 2008 to 4.8% in 2017. In 2017, in the G20 countries, economic growth rates were only 3.13%.

The state's economic policy, which includes the central bank's monetary policy and the government's fiscal policy, is aimed at solving the problem of ensuring sustainable growth. Currently, the world has accumulated considerable experience in implementing government strategies to stimulate economic growth, but common approaches for all countries have not yet been developed.

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The study of the problems of fiscal policy and, in particular, the dynamics and the structure of public debt, intensified after the European debt crisis of 2010 and was associated with a significant increase in public debt in many countries around the world. According to the IMF, in 2017, the government debt to GDP ratio was 87.9% in the UK, 98.5% in Spain, 98.8% in France, 106.5% in Belgium, 107.5% in the USA, 131.7% in Italy, and in Japan – 250.9%. In general, in the world, the total amount of public debt is about 60-70% of world GDP, which is a practical reflection of the implementation of the "debt economy" concept. Therefore, the question of the relationship between public debt and economic growth has again become the subject of heated discussions both in academic circles and among politicians.

Most scientists believe that high public debt, which arises because of imbalances in government fiscal policy, reduces economic growth. For small open economies, external borrowing is often accompanied not only by economic obligations to service and recover debts, but also by certain political conditions, which complicates the work of the government in managing external debt.

The importance of this issue for Ukraine is determined by the increase in the country's foreign debt, which at the beginning of 2018 amounted to approximately USD 82.0 bln (70% of GDP). This creates a certain problem, described in the literature as "the problem of low growth", when low economic growth leads to high levels of debt (Reinhart et al., 2012). As a result, a vicious circle arises: low economic growth does not provide sufficient revenue to the state budget, and low incomes do not allow expanding the financial base of economic growth.

In a small open economy, the key issue of stimulating economic growth remains the nature of the interaction between the government, which is responsible for the fiscal policy implementation, and the central bank responsible for the implementation of monetary policy. Most of the studies emphasize the high institutional capacity of monetary and fiscal authorities to stimulate economic growth using specific set of economic and administrative tools. However, in practice, political considerations or group interests often prevail over state interests, which is a significant deterrent to economic growth.

1. LITERATURE REVIEW

Studies of the impact of monetary policy on economic growth are reflected in the research of many scientists. Moenjak (2014) considers the policies and the operations of central banks in terms of the implementation of their main functions and maintaining monetary and financial stability. The study by Samargandi, Fidrmuc, and Ghosh (2013) using the example of 52 countries for 1980–2008, shows that in the long run financial development and economic growth are negatively related, while in the short run these relations are insignificant and can vary in different countries due to the heterogeneity of economic structures, institutional quality, financial markets, etc.

Waty (2014) and Adegoriola (2018) point to a positive relationship between monetary and fiscal policies instruments, on the one hand, and economic growth, on the other. Hosono and Miyakawa (2014), using Japan as an example, show the positive role of regulating bank capital and liquidity in order to stimulate lending and supporting economic development, as well as the role of the monetary transmission mechanism in ensuring the interaction of monetary and fiscal policies. Mendoza and Terrones (2008) note the positive impact of credit growth on economic growth. The studies of Barro (2013), Mishchenko et al. (2018), Gillman and Kejak (2011) have shown the negative impact of high inflation on investment and economic growth.

The study of the problems of the public debt and state budget deficit influence on economic growth has turned out to be more complex and dramatic. Today, most researchers, following Reinhart and Rogoff (2010), are of the opinion that these indicators have a negative interaction (Egert, 2012; Eberhardt & Presbitero, 2015; Lee & Ng, 2015). Teles and Mussolini (2014) believe that high government debt limits the impact of productive government spending on long-term growth, adversely

affects government fiscal policy and overall economic growth, and also reduces the savings rate in the economy. Chiu and Lee (2017), arising from the study of country risks on the example of 61 countries, conclude that an increase in public debt undermines economic growth and creates additional macro-financial and macroeconomic risks. Cochrane (2011) believes that a high level of public debt can create uncertainty or expectations of future financial repression, and Laubach (2009) justifies the specific size of the increase in interest rates depending on the increase in budget deficit and public debt in percent of GDP, which in his opinion, leads to a decrease in investment in the economy.

Gómez-Puig and Sosvilla-Rivero (2017) also confirm the view that in the long run, a high level of public debt has a negative effect on economic growth. However, they note that in some countries the short-term effect of this interaction under certain conditions can be positive. Such positive effects are revealed in Germany, Portugal and Spain.

However, in recent years, studies, the authors of which draw attention to a positive relationship between the increase in public debt and economic growth, have emerged. Panizza and Presbitero (2014) based on a study on the sample of OECD countries did not find evidence that in the medium term high government debt harms future growth. Although, in their opinion, this does not mean that countries can afford to maintain any level of external debt. Spilioti and Vamvoukas (2015), on the statistics of Greece since 1970, have received empirical results indicating the positive and the statistically significant effect of the increase in public debt on GDP growth.

A number of researchers have focused their attention on finding the threshold value of public debt, the excess of which will significantly restrain economic growth or even lead to an economic downturn. For example, S. Reinhart, V. Reinhart, and Rogoff (2012) believe that such a threshold value may be the ratio of public debt to GDP at 90%. Egert (2012) generally agrees with such a marginal level of public debt. At the same time, the authors note that negative consequences for the economies of different countries can occur with the lower level of public debt, which reaches 20-60% of GDP. Gómez-Puig and Sosvilla-Rivero (2017) support the view that it is necessary to establish a threshold value. Pescatori, Sandri, and Simon (2014) affirm that higher debt is associated with more volatile economic growth, and come to the conclusion that there is no debt threshold, the excess of which will significantly restrain medium-term growth. Other researchers adhere to the same approach (Herndon et al., 2013; Eberhardt & Presbitero, 2015).

Discussions about the neutrality of money and the impact of monetary policy on economic growth have been going on for a long time. Many researchers have admitted that the main activities of central banks should be to strengthen the role of central banks as development institutions, increase the institutional capacity of monetary and fiscal authorities (Han & Mulligan, 2008; Ibarra & Trupkin, 2016) to curb inflation (Bruno & Easterly, 1998; Lioui & Poncet, 2008; Mishchenko et al., 2018), to strengthen monetary instruments (Moenjak, 2014), as well as economically sound incentives for lending to the economy (Mendoza & Terrones, 2008; Gillman & Kejak, 2011; Mollick et al., 2011).

The study of the relationship of monetary and fiscal policies is very important for the Ukrainian economy. Dzyublyuk (2017) point to the need and possibility of the positive effect of the coordinated monetary policy of the central bank on economic growth. Dadashova (2014) points the negative impact of increasing public debt and the state budget deficit on economic growth. One of the reasons hindering economic growth is the lack of proper approaches to the coordination of monetary and fiscal policies (Mishchenko et al., 2016), which leads to corruption and inefficient use of state financial resources.

2. METHODOLOGY

The implementation of an effective economic policy of the state is based on a combination of the monetary policy of the central bank and the fiscal policy of the government, which are designed to promote sustainable long-term economic growth, high employment, and to ensure macroeconomic and financial stability.

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The research is carried out based on statistical data of the National Bank of Ukraine and the State Statistics Service of Ukraine for 2000–2017 (see Table 1), as well as on the calculations of the authors, based on the use of the set of economic and statistical analysis methods. For calculations, the growth rate of real GDP is taken as the main indicator characterizing economic growth. This is due to the fact that in the study period, 81.04% of the total variability of the growth rates of nominal GDP was due to the dynamics of real GDP and the level of inflation (the correlation coefficient is 0.9002).

As variables – factors affecting the rate of economic growth, the following indicators are used:

1) the growth rate of the monetary aggregate M3;
2) the inflation rate (the consumer price index);
3) the weighted average key interest rate of the NBU, %;
4) the growth rates of crediting the economy, %;
5) the ratio of public debt to GDP, %.

To assess the influence of these factors on the dependent variable (GDP), an autoregressive distributed lag model (Autoregressive Distributed Lag (ARDL)) is used, which in general terms can be represented as:

$$Y_{k,t} = \gamma_0 + \sum_{i=1}^{p} \gamma_i Y_{k,t-1} + \\ + \sum_{j=1}^{m} \sum_{l_j=0}^{q_j} \beta_{j,l_j} X_{j,t-l_j} + \varepsilon_t, \quad (1)$$

where $Y_{k,t}$ is a dependent variable; X_j are the factors that influence the dependent variable and are included in the model; p and q_j are the number of lags that are included in the model.

To determine the number of lags p and q that are included in the ARDL (p and q) model, the results of the Akaike information criterion (AIC) are used. Based on the use of this criterion, those models with the corresponding lags p and q, in which the minimum value of this test is recorded, are selected.

3. EMPIRICAL RESULTS

The analysis makes it possible to identify three stages of the monetary policy of the NBU in 2000–2017:

Table 1. The dynamics of the key macroeconomic indicators of Ukraine in 2000–2017

Source: Estimated by the authors using the NBU statistics and the State Statistics Service of Ukraine data.

Year	Real GDP growth rate, %	Inflation rate, % (CPI)	M3 growth rate, %	Lending, growth rate, %	Key interest rate of the NBU, %	State budget deficit to GDP, %	External public debt to GDP, %	Domestic public debt to GDP, %
2000	5.9	25.8	45.2	27.4	30.6	0.41	20.2	25.1
2001	9.2	6.1	42.1	36.0	19.7	–0.33	16.8	19.8
2002	5.2	–0.6	42.8	45.5	9.5	0.50	15.6	18.0
2003	9.6	8.2	46.4	57.2	7.0	–0.39	13.1	15.9
2004	12.1	12.3	31.9	32.4	7.5	–2.96	11.2	13.5
2005	2.7	10.3	54.4	60.9	9.2	–1.80	7.8	9.9
2006	7.3	11.6	34.5	72.4	9.0	–0.69	9.8	5.0
2007	7.9	16.6	51.7	80.0	8.0	–1.40	7.9	4.4
2008	2.3	22.3	30.2	63.2	11.3	–1.32	12.8	7.2
2009	–14.5	12.3	–5.5	–5.7	11.3	–3.89	11.5	23.2
2010	4.1	9.1	22.7	1.0	9.1	–5.94	14.4	25.5
2011	5.5	4.6	14.7	9.3	7.8	–1.79	13.2	22.7
2012	0.2	–0.2	12.8	–1.2	7.6	–3.79	14.7	21.9
2013	0.0	0.5	17.6	11.8	7.1	–4.45	19.5	20.6
2014	–6.8	24.9	5.2	10.4	10.2	–4.98	31.2	39.0
2015	–10.5	43.3	3.9	0.3	26.1	–2.28	26.7	52.7
2016	2.3	12.4	10.9	–0.4	17.5	–2.94	29.0	52.0
2017	2.5	13.7	7.3	3.7	13.1	–1.60	25.7	46.1

- 2000–2008 – stimulating monetary policy;
- 2009–2013 – moderately stimulating policy;
- 2014–2017 – tight monetary policy.

The first stage (2000–2008) was characterized by high growth rates of the monetary base, M3 monetary aggregate and a gradual decrease in the base interest rate, which ensured high rates of lending to the economy and the real GDP growth. However, in 2009, the global financial crisis caused an imbalance of the main monetary and macroeconomic proportions, which led to a decrease in real GDP by 14.5%.

The second stage (2009–2013) was characterized by relatively low growth rates of the money supply, a significant decrease in inflation and a slowdown in lending to the economy, which resulted in economic recession in 2012–2013. At the same time, in 2010, the international reserves of the NBU increased to USD 34.6 bln, which contributed to ensuring financial stability and created the basis for overcoming the banking crisis of 2014–2016.

At the third stage (2014–2017), the NBU's monetary policy was characterized by a significant increase in the key interest rate (up to 30%), a decrease in the growth of money supply and lending, a sharp increase in inflation and a decline in production in 2014 by 6.8%, and in 2015 – by 10.5 % (Figure 1).

The analysis of the indicators of the fiscal policy of the Government of Ukraine in 2001–2017 also allows for allocating three stages of its implementation.

During 2000–2008, on the background of rather high growth rates of the real GDP, there was a low level of the state budget deficit (in 2000 and 2002, there was a surplus of 0.41% and 0.50%, respectively), as well as a decrease in public debt, primarily external, to GDP. At the same time, in 2006–2008 domestic government borrowing prevailed over external. In 2008, public debt to GDP ratio was only 20.0%, including external – 7.2% (see Table 1). Such fiscal policy of the government can be described as tight.

During 2009–2013, under the economic crisis and the stagnation of the economy, the state budget deficit increased (in 2010 to 5.94%) and the government borrowing also increased, the ratio of which to GDP in 2013 was 40.1%. This allows to

Source: Estimated by the authors using the NBU statistics and the State Statistics Service of Ukraine data.

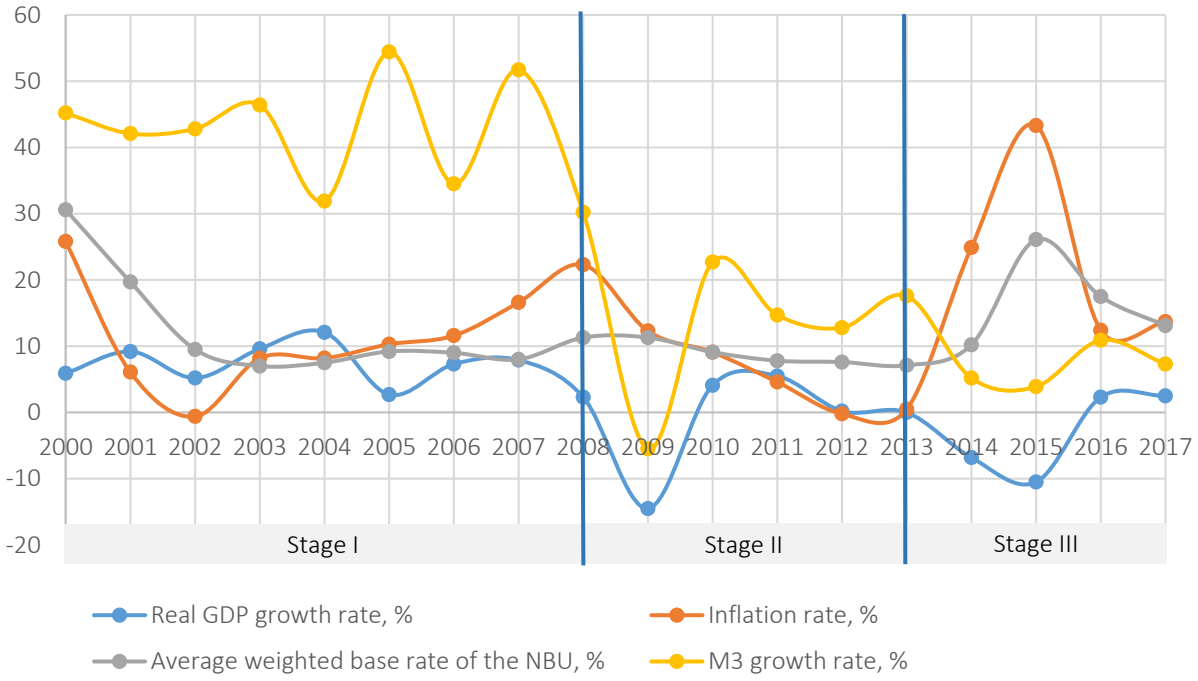

Figure 1. Graphic presentation of the real GDP growth rate and the dynamics of the key monetary indicators of Ukraine in 2000–2017

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Source: Estimated by the authors using the NBU statistics and the State Statistics Service of Ukraine data.

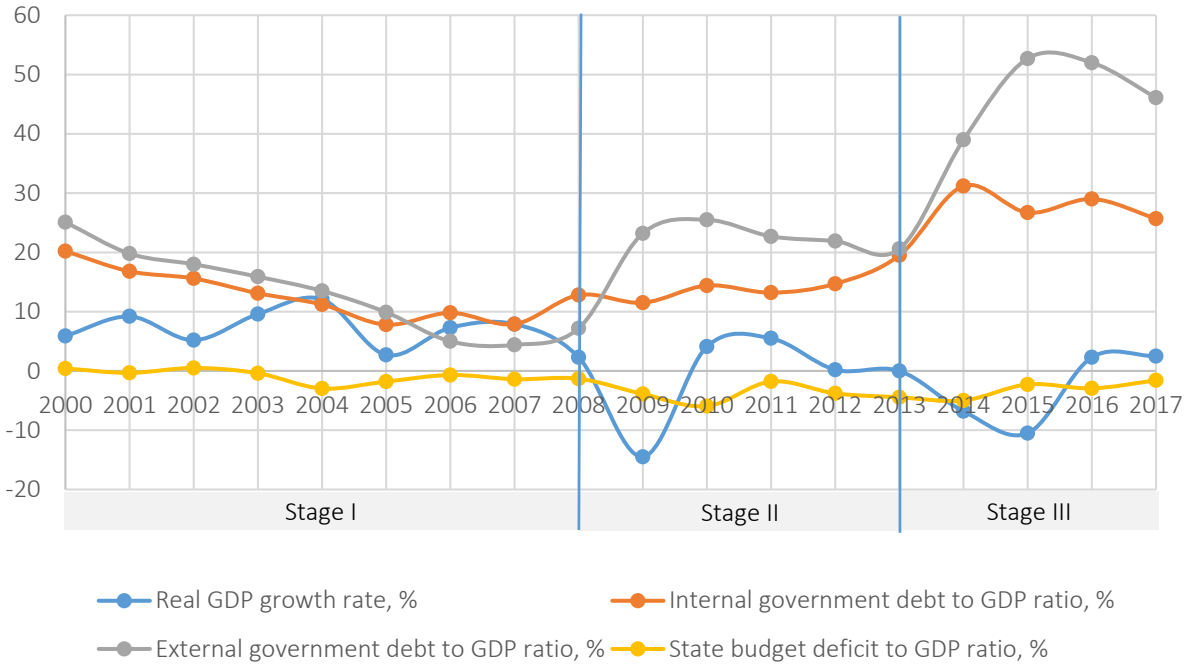

Figure 2. Graphic presentation of real GDP growth rate and the dynamics of the key fiscal indicators of Ukraine in 2000–2017

characterize the fiscal policy pursued by the government in 2009–2013 as moderately stimulating.

In 2014–2017, there was a gradual decrease in the state budget deficit from 4.98% in 2014 to 1.60% in 2017, as well as a significant increase in external public debt (in 2016, to 52.0% of GDP). At the same time, the expenses of the state budget of Ukraine in relation to GDP in 2017 compared to 2008 increased from 25.5% to 28.1%, which indicates the strengthening of the distribution function of the government. In addition, during the third stage, the government made several decisions to raise energy prices, which significantly increased the level of inflation and, accordingly, held back economic growth. Therefore, it can be concluded that during 2014–2017 the government pursued a fairly tight fiscal policy (Figure 2).

Economic theory considers the combination of monetary and fiscal policies as opposite (multidirectional), i.e., if the government pursues the tight fiscal policy, the central bank should make the monetary policy stimulating (or weaken it) and vice versa. Analysis of the data allows us to conclude that this requirement was strictly observed only in 2001–2008 and partly in 2009–2013, when both policies were moderately stimulating. In 2014–2017, in contrast to the previous stages, a tendency towards antagonism of the monetary and fiscal policies is observed (see Table 2).

A significant increase in domestic government borrowing has led to a decrease in incentives for lending to the economy, raising interest rates and crowding out of private investment. The rate on government securities begins to play a more important role than the key interest rate of the central bank. It can be concluded that the fiscal policy of the government actually dominates the monetary policy of the central bank. According to the authors, the inconsistency of the monetary and the fiscal policy was one of the reasons for the high volatility of macroeconomic indicators and the violation of the proportions between them, which complicates the task of finding patterns in economic interrelationships.

The results of the studies allow for determining that in the study period, the real GDP growth rate in Ukraine was strongly influenced by a change in the money supply (M3), the monetary base (Mh), inflation rate and the key rate of the NBU.

Table 2. The stages of the implementation of monetary and fiscal policies in Ukraine in 2000–2017

Source: Authors' results.

Periods (stages)	The pattern of the monetary policy	The pattern of the fiscal policy	The pattern of economic growth (the stage of the economic cycle)
Stage I: 2000–2008	Stimulating (expansionary)	Tight	Economic growth (upturn)
Stage II: 2009–2013	Moderately stimulating	Moderately stimulating	Crisis and economic stagnation (2009 – crisis, 2010–2011 – recovery, 2012–2013 – depression)
Stage III: 2014–2017	Tight (monetary cramp)	Tight (fiscal domination)	Economic downturn (2014–2015 – crisis, 2016–2017 – depression)

Note: , – the increase in antagonism between monetary and fiscal policies.

Since the monetary base indicators and the value of the M3 monetary aggregate are closely related, the M3 indicator was chosen for research, which is closely related to the deposit and lending activities of banks, which, in authors' view, more accurately characterizes the impact of the monetary policy of the central bank on stimulating lending and economic growth rates.

As a result of calculations, the following empirical models were obtained.

1. Assessment of the joint effect of the inflation rate and the M3 growth rate on the real GDP growth rate:

$$GDP_t = 5.05 + 0.23GDP_{t-1} - \\ -0.0002M3_t - 0.27CPI_t, \quad (2)$$

$$R^2 = 0.27,\ DW = 2.00,\ AIC = 6.85,$$

where GDP_t – the real GDP growth rate in period t, %; GDP_{t-1} – the real GDP growth rate in period t–1, %; CPI_t – the inflation rate in period t, %; $M3_t$ – the M3 growth rate in period t, %.

This model is defined as ARDL (1, 0, 0) and is statistically significant. Residues have a normal distribution and there is no autocorrelation. The results can be interpreted as follows: the growth rate of GDP in period t is directly proportional to the growth rate of GDP in the previous period and inversely proportional to the level of inflation and the growth rate of M3 money supply in the current period.

2. The impact of the weighted average key interest rate of the NBU on the real GDP growth rate:

$$GDP_t = 4.003 + 0.21GDP_{t-1} - \\ -0.78IR_t + 0.53IR_{t-1}, \quad (3)$$

$$R^2 = 0.38,\ DW = 2.17,\ AIC = 6.69,$$

where GDP_t – the real GDP growth rate in period t, %; GDP_{t-1} – the real GDP growth rate in period t – 1, %; IR_t – the NBU's weighted average base interest rate in period t, %; IR_{t-1} – the NBU's weighted average base interest rate in period t – 1, %.

From an economic point of view, this ratio indicates the negative impact of rising interest rates on the growth rate of real GDP.

More interesting were the results of calculations of the influence of the public debt dynamics on the real GDP growth rate.

3. The combined effect of the both internal and external public debt to GDP ratio on the real GDP growth rates:

$$GDP_t = 4.09 - 0.08GDP_{t-1} + \\ +0.37DGI_t - 1.05DGE_t + 0.75DGE_{t-1}, \quad (4)$$

$$R^2 = 0.79,\ DW = 1.9,\ AIC = 5.74,$$

where GDP_t – the real GDP growth rate in period t, %; GDP_{t-1} – the real GDP growth rate in period t – 1, %; DGI_t – the internal government debt to GDP ratio in period t, %; DGE_t – the external government debt to GDP ratio in period t, %; DGE_{t-1} – the external government debt to GDP ratio, in period t – 1, %.

Analysis of coefficients of this model makes it possible to conclude that in the study period there was

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a slight positive effect on the growth rate of real GDP changes in domestic public debt and a significant negative impact of an increase in external public debt.

This situation can be explained by the fact that, in the study period Ukraine was provided with the largest borrowing by the IMF, whose loans were sent directly to the NBU and used to maintain the stability of the national currency. Thereby, during 2014–2016 Ukraine received about USD 14.5 bln in foreign loans, of which almost 40% came from the IMF.

The study of the influence of monetary factors on the dynamics of fiscal indicators makes it possible to determine that this influence is determined by the action of the channels of the monetary transmission mechanism (Mishchenko et al., 2018). Thus, in accordance with the principles of the monetary channel of the monetary transmission mechanism, a change in the volume of money supply leads to a general change in the balance of money demand and supply in the economy, which ultimately affects the revenues and expenditures of market entities and the state.

Due to the influence of the interest rate channel of the monetary transmission mechanism, the change in the key interest rate of the central bank, which serves as a benchmark for the value of national money, has a direct impact on the formation of the entire system of interest rates in the economy, including interest rates on government borrowing, which can be characterized as the direct effect of monetary factors on fiscal policy. Through feedback channels, an increase in interest rates leads to an increase in spending on servicing the public debt, reduces the savings rate in the economy, holds back investment growth, etc., which in the long run negatively affects economic growth rates.

The study of the debt policy of the Government of Ukraine in 2014–2017, when the state debt in relation to GDP increased from 40.1% in 2013 to 81.0% in 2016, suggests that an attempt was made to replace the shortfall in income due to a drop in production (low economic growth) by an increase in public debt, mostly external. Thus, in 2013 the ratio of internal and external public debt was approximately equal, and in 2015–2016, external debt accounted for about 2/3 of all government borrowing.

In the context of evaluating the effectiveness of the coordination of monetary and fiscal policies, the role of central banks in the secondary market for government securities is becoming active. At the beginning of 2018, the NBU portfolio accumulated UAH 360.6 bln of Ukraine's internal government loan bonds, which is about 48.1% of all domestic government bonds in circulation.

In addition, in recent years, NBU actively uses certificates of deposit as a tool for managing liquidity, the yield on which is lower than the official key rate (since July 2018, it is 17.5%) by 2 percentage points, which is comparable to the yield of government securities (the lowest is by 1-2 pp.). Such situation with government securities and raising funds from banks for certificates of deposit significantly reduces the amount of credit resources that banks can use to lend to the economy, and this, in turn, reduces lending rates, attracting investment in fixed capital and slows down economic growth.

The mismatch of the principles and criteria for the implementation of monetary and fiscal policy leads to "interest rate trap" when, in response to the central bank raising the key interest rate, the government is forced to raise the rates of return on government securities, which significantly increases the cost of borrowing and in the long run creates additional burden on the state budget. This once again underlines the need to strengthen the coordination of monetary and fiscal policies in order to enhance economic growth.

CONCLUSION

The analysis made it possible to distinguish three stages in monetary and fiscal policies: 2000–2008 – stimulating monetary policy and tight fiscal policy; 2009–2013 – moderately stimulating both monetary and fiscal policies; 2014–2017 – rigid both monetary (monetary clamp) and fiscal (fiscal dominance)

policy. Thus, the obtained results show that in recent years the balance between monetary and fiscal policies has been broken and fiscal policy dominates over monetary.

It is revealed that in 2000–2017 in Ukraine, the dynamics of M3, inflation and the weighted average key interest rate negatively influenced the growth rates of real GDP, due to the close relationship between the money supply growth rates and the inflation rate, as well as the "monetary clamp" due to the growth of the discount rate of the NBU.

The results of the study give grounds for concluding that the long-term accumulation of gross public debt negatively affects the real GDP growth rate. However, in the study period in Ukraine there was a slight positive effect on the real GDP growth rate changes in domestic public debt and a significant negative impact of an increase in external public debt. As the results of the study show, an increase in external public debt, contrary to the established point of view, does not stimulate economic growth, since under current conditions, the cost of servicing external debt increases substantially. This situation can also be explained by the fact that in the study period Ukraine was provided by large IMF borrowings, whose loans were directed to the NBU in order to maintain the stability of the national currency.

The results indicate the absence of coordination of monetary and fiscal policies in Ukraine during 2009–2017, which led to increase of inflation and slower economic growth. In order to enhance the positive impact of monetary and fiscal factors in economic growth in Ukraine, a consistent decrease in interest rates is required, with simultaneous improvement of central bank deposit operations and an increase in the channels of the monetary transmission mechanism. It is also necessary to reduce the volume of external public debt with the simultaneous development of the government securities market and an increase in the level of coordination of monetary and fiscal policies.

REFERENCES

1. Adegoriola, A. *E. (2018). An empirical analysis of effectiveness of monetary and fiscal policy instruments in stabilizing economy: Evidence from Nigeria. Social Sciences, 7*(3), 133-140. http://dx.doi.org/10.11648/j.ss.20180703.14
2. Barro, R. J. (2013). Inflation and economic growth. *Annals of Economics and Finance, 14*(1), 85-109.
3. Bruno, M., & Easterly, W. (1998). Inflation crisis and long-run growth. *Journal of Monetary Economics, 41*(1), 3-26. https://doi.org/10.1016/S0304-3932(97)00063-9
4. Chiu, Y.-B., & Lee, C.-C. (2017). On the Impact of Public Debt on Economic Growth: Does Country Risk Matter? *Contemporary Economic Policy, 35*(4), 751-766. https://doi.org/10.1111/coep.12228
5. Cochrane, J. H. (2011). Presidential address: Discount rates. *The Journal of Finance, 66*(4), 1047-1108. https://doi.org/10.1111/j.1540-6261.2011.01671.x
6. Eberhardt, M., & Presbitero, A. F. (2015). Public debt and growth: heterogeneity and non-linearity. *Journal of International Economics, 97*(1), 45-58. https://doi.org/10.1016/j.jinteco.2015.04.005
7. Egert, B. (2012). *Public Debt, Economic Growth and Nonlinear Effects: Myth or Reality?* (CESifo Working Paper No. 4157). Retrieved from https://www.cesifo-group.de/DocDL/cesifo1_wp4157.pdf
8. Gillman, M., & Kejak, M. (2011). Inflation, investment and growth: a money and banking approach. *Economica, 78*(310), 260-282. http://dx.doi.org/10.1111/j.1468-0335.2009.00814.x
9. Gómez-Puig, M., & Sosvilla-Rivero, S. (2017). *Public debt and economic growth: further evidence for the euro area* (ICEI WP 09/17). Research Institute of Applied Economics. http://dx.doi.org/10.2139/ssrn.3041117
10. Han, S., & Mulligan, C. B. (2008). Inflation and the size of the Government. *Federal Reserve Bank of St. Louis Review, 90*(3), 245-67.
11. Herndon, T., Ash, M., & Pollin, R. (2013). Does high public debt consistently stifle economic growth? A critique of Reinhart and Rogoff. *Cambridge Journal of Economics, 24,* 1-23. http://dx.doi.org/10.1093/cje/bet075
12. Hosono, K., & Miyakawa, D. (2014). *Business Cycles, Monetary Policy, and Bank Lending* (RIETI Discussion Paper Series No. 14-E-026). Retrieved from https://www.rieti.go.jp/jp/publications/dp/14e026.pdf
13. Ibarra, R., & Trupkin, D. R. (2016). Reexamining the relationship be-tween inflation and growth: Do institutions matter in developing countries? *Economic Modelling, 52*(B), 332-351. http://dx.doi.org/10.1016/j.econmod.2015.09.011

http://dx.doi.org/10.21511/bbs.14(2).2019.04

14. Laubach, T. (2009). New evidence on the interest rate effects of budget deficits and debt. *Journal of the European Economic Association*, *7*(4), 858-885. https://doi.org/10.1162/JEEA.2009.7.4.858

15. Lee, Siew-Peng, & Ng, Yan-Ling. (2015). Public debt and economic growth in Malaysia. *Asian Economic and Financial Review, 5*(1), 119-126. http://dx.doi.org/10.18488/journal.aefr/2015.5.1/102.1.119.126

16. Lioui, A., & Poncet, P. (2008). Monetary non-neutrality in the Sidrauski model under uncertainty. *Economic Letters, 100*(1), 22-26. https://doi.org/10.1016/j.econlet.2007.10.023

17. Mendoza, E. G., & Terrones, M. E. (2008). *An Anatomy of Credit Booms: Evidence From Macro Aggregates and Micro Data* (IMF Working Paper No. 08/226). Retrieved from https://www.imf.org/en/Publications/WP/Issues/2016/12/31/An-Anatomy-of-Credit-Booms-Evidence-From-Macro-Aggregates-and-Micro-Data-22257

18. Mishchenko, S. V., Naumenkova, S. V., & Lon, I. M. (2016). Монетарні цикли в економіці України [Monetarni tsykly v ekonomitsi Ukrainy]. *Aktualni problemy ekonomiky, 185*(11), 363-372. Retrieved from http://nbuv.gov.ua/UJRN/ape_2016_11_40

19. Mishchenko, V., Naumenkova, S., Mishchenko, S., & Ivanov, V. (2018). Inflation and economic growth: the search for a compromise for the Central Bank's monetary policy. *Banks and Bank Systems, 13*(2), 153-163. http://dx.doi.org/10.21511/bbs.13(2).2018.13

20. Moenjak, T. (2014). *Central Banking: Theory and Practice in Sustaining Monetary and Financial Stability*. New York: John Wiley & Sons.

21. Mollick, A. V., Cabral, R., & Carneiro, F. G. (2011). Does inflation targeting matter for output growth? Evidence from industrial and emerging economies. *Journal of Policy Modeling*, *33*(4), 537-551. https://doi.org/10.1016/j.jpolmod.2011.03.010

22. Panizza, U., & Presbitero, A. F. (2014). Public Debt and Economic Growth: is there a Causal Effect? *Journal of Macroeconomics, 41,* 21-41. https://doi.org/10.1016/j.jmacro.2014.03.009

23. Pescatori, A., Sandri, D., & Simon, J. (2014). *Debt and Growth: Is There a Magic Threshold?* (IMF Working Paper No. 34). Retrieved from https://www.imf.org/external/pubs/ft/wp/2014/wp1434.pdf

24. Reinhart, C., & Rogoff, K. (2010). Growth in a Time of Debt. *American Economic Review, 100*(2), 573-578. Retrieved from https://scholar.harvard.edu/files/rogoff/files/growth_in_time_debt_aer.pdf

25. Reinhart, C. M., Reinhart, V. R., & Rogoff, K. S. (2012). Public debt overhangs: advanced economies episodes since 1800. *Journal of Economic Perspectives, 26*(3), 69-86. https://doi.org/10.1257/jep.26.3.69

26. Samargandi, N., Fidrmuc, J., & Ghosh, S. (2013). *Is the Relationship between Financial Development and Economic Growth Monotonic? Evidence from a Sample of Middle Income Countries* (CESifo Working Paper No. 4743). Retrieved from http://www.cesifo-group.de/DocDL/cesifo1_wp4743.pdf

27. Spilioti, S., & Vamvoukas, G. (2015). The impact of government debt on economic growth: An empirical investigation of the Greek market. *The Journal of Economic Asymmetries, 12*(1), 34-40. https://doi.org/10.1016/j.jeca.2014.10.001

28. Teles, V. K., & Mussolini, C. C. (2014). Public Debt and the Limits of fiscal Policy to Increase Economic Growth. *European Economic Review, 66,* 1-15. https://doi.org/10.1016/j.euroecorev.2013.11.003

29. Waty, F. (2014). Interdependency between monetary policy instruments and Indonesian economic growth. *Journal of Economics and International Finance, 6*(9), 203-210. https://doi.org/10.5897/JEIF2014.0595

30. The National Bank of Ukraine (NBU). (n. d.) Retrieved from https://bank.gov.ua/control/uk/publish/article?art_id=27843415&cat_id=44578#2

31. The State Statistics Service of Ukraine (SSSU). (n. d.) Retrieved from http://ukrstat.gov.ua/operativ/operativ2018/so_ek_r_u/soekru_u/arh_soekru_18.htm