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# MONETARY AND FISCAL COORDINATION IN UKRAINE AND ITS IMPACT ON ECONOMIC GROWTH UNDER THE CONDITIONS OF MARITAL STATE

## ABSTRACT

The purpose of this paper is to examine the effectiveness of monetary and fiscal policy instruments, to determine the level of influence of monetary and fiscal factors on economic growth, as well as to justify ways for improving the effectiveness of monetary and fiscal policy coordination. Insufficient coordination of monetary and fiscal policies entails devastating economic consequences. The critical analysis of scientific publications proved that today the coordination of monetary and fiscal policies depends on the degree of balanced regulation of interest rates and inflation control. The research uses a NARDL model to capture mainstream trends in the influence of monetary and fiscal factors, as well as in the empirical study of their coordination. According to the estimations it was established that the weighted average rate of NBU instruments is absorbed to a greater extent in the monetary component of coordination, the system of managing the internal public debt – in the fiscal component. The participation of monetary authorities in the management of the national internal debt remains a debatable issue today. It is proved that the process of coordination of monetary and fiscal policies is influenced by the state of Ukraine's economy during the war.

Despite the difficult political and economic situation in Ukraine, it is necessary to focus on improving the coordination of monetary and fiscal policies. In particular, the significant contribution of the NBU in financing the state budget deficit due to their purchase of government bonds needs to be resolved. Strengthening the role of macroprudential policy in the coordination of monetary and fiscal policies, one of the goals of which is to counter the emergence of a systemic crisis; formation of a clearly developed coordination strategy, which would be based on clearly defined goals, set tasks on the basis of selected methods and instruments for their achievement.

**Keywords:** economic growth, instruments and methods, policy coordination, macroeconomic policy, monetary policy, fiscal policy

**JEL Classification:** E52, E62, E63

## INTRODUCTION

The governmental regulation of economic processes within any nation should be directed towards fostering economic growth. Simultaneously, the attainment of both external and internal equilibrium poses a challenging aspect of macroeconomic regulation. State regulation of the economy after the consequences of crises that occur at both the macro- and microeconomic levels, in particular the ongoing state of war in Ukraine, can be effective and efficient only in case of consistency of monetary and fiscal policies. The problem is compounded by the fact that there can be an inverse relationship between these two policies, and they can also contradict each other.

The decisive role of the consistency of monetary and fiscal policies has significantly increased in the last decade due to the critical growth in public debt in many countries and the need to manage public borrowing. In addition, one of the characteristic features of the functioning of modern financial systems of the countries of the world during the crisis was the development of anti-crisis programs based on the coordination of monetary and fiscal policies through their coordination and the use of common instruments

and methods. The development of a common vision of the development and formation of the state's economic policy, which would cover all the possibilities and measures of both fiscal and monetary policies, is a significant scientific and practical problem and should become the main task of regulatory bodies. For Ukraine, in current conditions of unbalanced macroeconomic balance, the mentioned problem is gaining increased relevance and attention.

## LITERATURE REVIEW

The analysis of scientific publications on the coordination of monetary and fiscal policies gives reason to claim that in the publications of foreign economists, this mechanism is considered in terms of certain regions, based on the specifics of the economic development of individual countries.

Thus, (D. Bonam, J. Lukkezen, 2019) proved that in standardized macroeconomic models, the stability and uniqueness of the equilibrium require that the monetary policy is aimed at targeting inflation, and the fiscal policy ensures long-term debt sustainability. The authors analytically proved that these requirements change and depend on the cyclicity of financial policy. Namely, the budget deficit causes interest rates to rise and reduces consumption. Therefore, countercyclical fiscal policy is effective if it is complemented by more aggressive debt consolidation and/or active monetary policy. However, the authors emphasize that stability is easier to achieve within the limits of pro-cyclical fiscal policy thanks to the support of low-interest rate spreads.

The study by (R.C.M. Beyer et al., 2023), using the example of the Eurozone countries, used the macroeconomic model to prove that fiscal policy can help monetary policy in reducing inflation. In particular, a fiscal consolidation of 1% of GDP over two years and 0.5% in the third year across the Euro Area would reduce interest rates by 30-50 basis points compared to the baseline scenario, while reducing inflation. Therefore, fiscal consolidation across the entire Eurozone could lead to a more rapid decline in inflation, while allowing for a less tight monetary policy stance.

Researchers (J.G. Figueroa, F.I.V. Padilla, 2022) conducted an expert assessment of how central banks included in NAFTA (Canada, the United States of America and Mexico) coordinate their actions around the leader country in order to maintain stability and the proper functioning of financial markets. The authors proved that depending on the degree of interdependence of the economies with NAFTA countries, the regulatory bodies, especially the monetary authority, should coordinate their actions with their counterparts to maintain the functioning of the currency and financial markets and thus guarantee their stability. As for the Mexican economy, it shows a high degree of asymmetry in relation to the US, so decisions on monetary policy are consistent with the actions of the Fed and to a lesser extent with the internal conditions of the functioning of the financial market. Such dependence is due to the low degree of development of financial markets. Whereas in the Canadian economy, which is symmetrical with respect to the US economy, the decisions of the Central Bank of Canada take into account not only the actions of the Fed but also the internal conditions of the economy.

The study of (Sonali Das, Wenting Song, 2023) analyzed the transmission mechanism of China's traditional monetary policy. Special attention was paid to the interaction between monetary and fiscal policies from the point of view of the uniqueness of the institutional structure for the development of macroeconomic policy. The authors proved that the impact of monetary policy measures, which are not coordinated with fiscal policy, is much weaker than the impact of coordinated measures. They emphasize the need for further improvement of the system, which is based on interest rates. The researchers argue that as China's monetary policy transmission becomes increasingly based on interest rates, the cyclicity of monetary policy shocks provides useful empirical implications for future research.

The collective of authors led by (Nyati Malibongwe Cyprian et al., 2023), using the example of South Africa, considered the interaction and the possibility of coordination of macroprudential and monetary policy based on the synchronization of business and financial cycles. The researchers observed that during periods of financial and real economic strain in South Africa, characterized by reactive crisis management rather than proactive crisis prevention, macroprudential policies and the actions of monetary authorities tend to reinforce one another. However, as asserted by the authors, in the current context where crisis mitigation measures take precedence over preventive strategies, the alignment between macroprudential and monetary policy decisions diminishes. Hence, the feasibility of coordinating macroprudential and monetary policies hinges on synchronizing business and financial cycles.

A noteworthy study conducted by (William Irungu Ng'Ang'A et al., 2019), who investigated the nature of fiscal and monetary policy coordination and established its impact on long-term sustainability in Kenya. The study used annual time series data from 1963 to 2014. The results indicate that a passive or unstable fiscal regime prevailed during the study period. The authors also received data confirming coordination between fiscal and monetary policies. It has been proven that there is a tendency for monetary policy to actively and cautiously react to unstable fiscal policy. It was concluded that it is

necessary to adopt a systematic monetary reaction to the periodic deviation of the fiscal policy from the trajectory of long-term sustainability.

On the example of India, (Harikrishnan, 2022) have studied the conditions of the budget deficit. The author notes that during the coronavirus crisis, the US Federal Reserve's decision to raise the interest rate put enormous pressure on the central bank of India, with the aim of forcing it to raise the interest rate to avoid capital flight. However, as the resumption of economic growth is the primary objective, interest rates remain status quo. Thus, an alternative policy is to maintain strong macroeconomic indicators (including the budget deficit-to-GDP ratio and inflation control). The policy dilemma here is that if the deficit is controlled to the GDP threshold through spending cuts, then economic growth will suffer. In the event that the real interest rate outpaces the genuine economic growth rate, the eventual monetization of the deficit becomes an inevitable outcome. The contraction of fiscal space, stemming from revenue uncertainty, has engendered a theoretical prospect for the reoccurrence of restricted deficit monetization within the context of India. Nevertheless, empirical scrutiny has corroborated the absence of direct monetization of the deficit.

The examination of foreign scholarly literature concerning pertinent matters has demonstrated that the alignment of monetary and fiscal policies within the examined regions primarily revolves around the management of the monetary market. Specifically, this entails the regulation and equilibrium of interest rate determination and inflation control. As for Ukraine, this issue has become topical and requires certain solutions, especially during martial law, when external financial assistance leads to an increase in the external debt burden and the implementation of a strict monetary policy.

Among domestic scientific developments on this issue, the works of such economists deserve attention. Thus, A. Deshko identified the key factors influencing the stability of the financial system related to the effective coordination of fiscal and monetary policies in Ukraine, namely: increasing the role of the Financial Stability Council regarding the use of monetary and fiscal policy tools, such as reducing inflation, stimulating consumer demand, investments, regulation of monopolist tariffs; increasing the effectiveness of the interest rate policy to stimulate lending to non-financial corporations; improving the quality of placement planning and the term structure of loans in order to avoid peak loads when making payments during the repayment and servicing of the state debt; improving the quality of forecasting tax revenues to the budget and others (Deshko, 2019). In this context, the study conducted by M. Pasichnyi, who proved the need to introduce a system for evaluating the effectiveness of coordination of fiscal and monetary policies, deserves attention. The author proposed an assessment of the potential impact of fiscal instruments on the dynamics of the consumer price index, as well as monetary instruments on the formation of budget revenues and the conditions for attracting state loan bonds to finance the budget deficit and service the state debt (Pasichnyi, 2019).

I. Chugunov et al. proposed measures for post-crisis economic recovery through the coordination of fiscal and monetary policies, namely: gradual reduction of public debt servicing costs; transition to a countercyclical fiscal policy that promotes an expansive monetary policy; adoption of policies geared towards mitigating the degree of state intervention in the banking sector and directing lending towards the tangible sectors of the economy, as opposed to predominantly channelling it through government-controlled financial entities; to incentivize lending via monetary channels rather than fiscal instruments (Chugunov et al., 2021).

Regarding the modelling of coordination strategies of fiscal and monetary policies, the scientific work (Mishchenko S. et al., 2019) deserves attention. The authors, based on the use of the autoregressive distributed lag method, determined the strategies for implementing monetary and fiscal policies in Ukraine from 2000-2017. The first strategy covered the period 2000-2008 and was characterized by economic growth. The second (2009-2013) was characterized by the following: crisis and economic stagnation (2009 – crisis, 2010-2011 – recovery, 2012-2013 – depression). The third (2014-2017) is an economic downturn (2014-2015 – crisis, 2016-2017 – depression).

## AIMS AND OBJECTIVES

The focal point of this research endeavour is to delve into the efficacy of monetary and fiscal policy instruments, delineate the magnitude and orientation of their impact on economic growth, and outline pathways for enhancing the effectiveness of coordinating these policies.

To achieve the purpose, the following tasks were defined:

- to identify the main factors affecting the coordination of monetary and fiscal policies;
- to determine the factors of monetary and fiscal policy that affect economic growth in the state;
- to estimate the model and evaluate the non-linear impacts of monetary and fiscal indicators on economic growth;

- to develop recommendations for further coordination of monetary and fiscal policies to ensure macroeconomic and financial stability.

## METHODS

The object of investigation pertains to discerning the interplay and consequential efficacy of monetary and fiscal policies in fostering economic growth within the context of martial law in Ukraine.

The attainment of the research objectives necessitates the employment of various methodological approaches such as:

- systematic approach when identifying factors influencing monetary and fiscal policies on economic growth;
- analysis, synthesis and generalization when determining the main components of coordination of monetary and fiscal policies;
- calculation and analytical, graphical methods, and coefficient analysis when studying the dynamics of the most significant factors of monetary and fiscal policies on macroeconomic stability;
- non-linear autoregressive distributed lag modelling (NARDL) when capturing the asymmetric impact of monetary and fiscal policy instruments;
- expert assessments and comparative analysis when formulating recommendations for further coordination of monetary and fiscal policies.

## RESULTS

In previous studies, to measure the influence of monetary and fiscal factors on economic growth (S. Mishchenko et al., 2019), an autoregressive distributed lag model, but in linear form (ARDL), was used. However, the degree of influence of the dynamics of one or another indicator of monetary and fiscal policy in practice is not uniform and depends on the direction of changes. A popular example of such a pattern is the so-called "ratchet effect", due to which an increase in the price level occurs more flexibly than a decrease. To capture such trends in the influence of monetary and fiscal factors, as well as to empirically study their coordination, it is advisable to use the nonlinear version of the autoregressive distributed lag (NARDL) model proposed by (Y. Shin et al., 2013). The initial data for modelling are presented in Table 1.

The growth in the real GDP of Ukraine will be used as an explained variable. The sphere of influence of the NBU monetary policy is represented by CPI, the growth of the money supply in M3, changes in the rate of bank lending and the weighted average rate on NBU instruments. Indicators of the fiscal sphere are the ratio of the state budget deficit and external and internal public debt to GDP. Since a limitation of nonlinear models is the integration of a series of variables no higher than first order, it is necessary to test all series for the presence of a unit root. Tests showed that the dependent variable GDP is  $I(0)$ , the independent variables CPI, RATE are also  $I(0)$ , the variables M3, LOANS, BUDG, INT are  $I(1)$ , and the variable EXT does not satisfy the model constraints because it is  $I(2)$ . Thus, for the series M3, LOANS, BUDG, INT, the model will use the first differences of the specified variables.

**Table 1. Indicators of economic growth, monetary and fiscal policy in Ukraine in 2000-2023, %.** Note: GDP – real GDP growth; CPI – consumer price index; M3 – growth of the monetary aggregate M3; LOANS – increase in the volume of loans provided; RATE – weighted average rate for NBU operations; BUDG – the ratio of government budget deficit to GDP; EXT – the ratio of external public debt to GDP; INT is the ratio of domestic public debt to GDP. (Source: calculated by the authors based on (National Bank of Ukraine, 2024; Ministry of Finance, 2024))

Year	GDP	CPI	M3	LOANS	RATE	BUDG	EXT	INT
2000	5.9	25.8	45.2	27.4	29.6	0.4	20.2	25.1
2001	9.2	6.1	42.1	36.0	20.2	-0.3	16.8	19.8
2002	3.2	-0.6	42.8	45.5	9.2	0.5	15.6	18.0
2003	9.6	8.2	46.4	57.2	8.0	-0.4	13.1	15.9
2004	12.1	12.3	31.9	32.4	16.1	-3.0	11.2	13.5
2005	2.7	10.3	54.4	60.9	14.7	-1.8	7.8	9.9
2006	7.3	11.6	34.5	72.4	11.5	-0.7	9.8	5.0
2007	7.9	16.6	51.7	89.0	10.1	-1.4	7.9	4.4
2008	2.3	22.3	30.2	63.2	15.3	-1.3	12.8	7.2
2009	-14.5	12.3	-5.5	-5.7	16.7	-3.9	11.5	23.2

(continued on next page)

Table 1. Continued

Year	GDP	CPI	M3	LOANS	RATE	BUDG	EXT	INT
2010	4.1	9.1	22.7	1.0	11.6	-5.9	14.4	25.5
2011	5.5	4.6	14.7	9.3	12.4	-1.8	13.2	22.7
2012	0.2	-0.2	12.8	-1.2	8.1	-3.8	14.7	21.9
2013	0.0	0.5	17.6	11.8	7.2	-4.5	19.5	20.6
2014	-6.8	24.9	5.2	10.4	15.6	-5.0	31.2	39.0
2015	-10.5	43.3	3.9	0.3	25.2	-2.3	26.7	52.7
2016	2.3	12.4	10.9	-4.7	17.4	-2.9	29.0	52.0
2017	2.5	13.7	7.3	3.7	15.9	-1.6	25.7	46.1
2018	3.4	9.8	5.7	7.9	19.2	-1.7	45.3	25.0
2019	3.2	4.1	12.6	-7.6	18.4	-2.1	31.5	22.8
2020	-3.8	5.0	28.6	-7.0	7.9	-5.7	39.8	27.1
2021	3.4	10.0	12.0	10.9	7.7	-4.5	35.8	25.5
2022	-28.8	26.6	20.8	-2.7	19.8	-23.7	67.5	3.8
2023	5.7	5.1	14.4	-1.0	24.8	-32.2	93.3	40.0

Since NARDL model is relatively new, its implementation in the EViews 9 software environment available to the authors requires a number of manual preparatory actions, in particular the generation of partial sums of positive and negative changes in explanatory variables. The model itself is estimated using the stepwise least squares method (STEPLS) in unidirectional backward mode, and the stopping criterion is a p-value of 0.10 (90% confidence). The search for optimal regressors is limited to 4 lags. The representations and characteristics of the resulting equations are presented in Table 2.

Table 2. Presentation and characteristics of economic growth models of Ukraine evaluated as NARDL.

Independent Variable (X)	Coefficients of X		Rong-run coefficients of X		R2, %	AIC	Indicators of integration and asymmetry according to Wald test	
	positive	negative	positive	negative			F-stat.	p-value
CPI	-1.1994	-0.9947	-0.2399	-0.1989	95.1	-3.2634	4.5485	0.1697
M3	9.3879	7.4201	1.4449	1.1420	93.0	-3.0154	5.3426	0.1073
LOANS	-0.0355	-0.0875	-0.0120	-0.0295	95.2	-3.3972	6.6071	0.6742
<b>RATE</b>	<b>-3.4213</b>	<b>-3.5820</b>	<b>-6.4298</b>	<b>-6.7318</b>	<b>99.9</b>	<b>-8.2534</b>	<b>754.3345</b>	<b>0.0057</b>
BUDG	14.5945	13.0130	10.7780	9.6101	93.2	-3.4637	6.5384	0.0112
<b>INT</b>	<b>0.5233</b>	<b>2.0467</b>	<b>0.1217</b>	<b>0.4762</b>	<b>99.9</b>	<b>-7.0011</b>	<b>69.7235</b>	<b>0.0020</b>

The coefficients for independent variables given in Table 2 are not explanatory in long-run terms, since the dynamics of Ukraine's real GDP, according to NARDL method, is also explained by the autoregression of the dependent variable with one inverse lag: GDP (-1). In other words, real GDP growth depends not only on the increase or decrease in monetary and fiscal indicators but also on the level of the same growth a year ago. In order to obtain the long-run coefficients of influence of independent variables, it is necessary to transform the values as follows:

$$C(X_t^+)_{LR} = \frac{-C(X_t^+)}{C(Y_{t-1})}, \quad C(X_t^-)_{LR} = \frac{-C(X_t^-)}{C(Y_{t-1})} \quad (1)$$

where  $C(X_t^+)$ ,  $C(X_t^-)$  – coefficients for positive and negative differences in variable X;  $C(Y_{t-1})$  – coefficient of the dependent variable with one reverse lag.

Transformations according to (1) make it possible to assess the multidirectional long-run influence of selected factors on economic growth in Ukraine. Although all the resulting models have a fairly high degree of determination ( $R^2$  is well above the 75% threshold), the estimated coefficients may be spurious if the variables are not co-integrated. The Wald test allows for determining the estimated value of the F-statistic for each model, which must exceed the critical value calculated (Pesaran M. et al., 2001) for cases with a constant and a single long-term regressor. Although the presented models have

two long-run regressors (positive and negative changes), they actually come from the same series, so the critical value of the F-statistic for all models at the 99% significance level will be 6,84.

Thus, only two models meet the criterion for co-integration of variables: with the weighted average rate on NBU instruments (monetary policy) and with the ratio of domestic public debt to GDP (fiscal policy). However, the true asymmetry (nonlinearity) of the impact of positive and negative changes in these variables on economic growth will be statistically significant only if the asymmetry of the impact coefficients in the long term is confirmed according to the Wald test. Since the p-value for both models is significantly lower than 0.05, the null hypothesis of the absence of asymmetry is rejected, and, therefore, the estimated influence coefficients are indeed nonlinear. Among others, the highest quality of these two models is evidenced by the lowest values of the Akaike information criterion (-8.2534 and -7.0011, respectively).

The interpretation of the obtained values indicates a clear dominance of monetary policy instruments over fiscal factors. Thus, with an increase in the weighted average rate on NBU instruments by 1%, the growth of real GDP will decrease by 6.43%, and with a decrease in the rate, it will increase by 6.73%. At the same time, with a 1% increase in the ratio of domestic public debt to GDP, real GDP growth will increase by 0.12%, and with a decrease in the debt burden by 1%, economic growth will slow down by 0.48%. Thus, the NBU's monetary policy has a disproportionately stronger impact on economic growth, while fiscal instruments, in particular internal debt management, are unlikely to stimulate the real development of the Ukrainian economy.

## DISCUSSION

The conducted estimations confirm the diversity of approaches of scientists regarding the determination of directions, and instruments of coordination of monetary and fiscal policies, and thus create a foundation for further developments. The central proposition elucidated in the scrutinized scholarly works underscores the necessity for the coordination of monetary and fiscal policies, predominantly executed through the regulation of the monetary market. This involves the oversight and harmonization of mechanisms governing interest rate determination, inflation containment, and domestic debt management.

In accordance with the obtained results, when estimating the model of the influence of monetary and fiscal instruments on economic growth in Ukraine, it was established that the weighted average rate of NBU instruments is absorbed to a greater extent in the monetary component of coordination, the system of managing the internal public debt – in the fiscal component. The participation of monetary authorities in the management of domestic debt, i.e. coordination with fiscal policy, remains a debatable issue.

According to Art. 42 of the Law of Ukraine "On the National Bank of Ukraine", the National Bank of Ukraine "...performs operations to service the state debt, related to the placement of state securities, their redemption and payment of income on them" (Verkhovna Rada of Ukraine, 1999). Art. 54 of the same Law "Prohibition of granting loans to the State" states that "... the National Bank of Ukraine does not have the right to grant loans in national and foreign currency, both directly and indirectly through a state institution, another legal entity whose property is in state property, to finance the State Budget of Ukraine" (Verkhovna Rada of Ukraine, 1999). However, considering the dynamics of the growth of the governmental bond portfolio by the NBU and banks, it can be ascertained the fact of the purchase of bonds, which is, in its economic essence, monetary financing of the state budget deficit (Table 3).

**Table 3. Governmental bonds in circulation, by the amount of the principal debt for the period 2019-2023.** (Source: calculated by the authors based on (National Bank of Ukraine, 2024))

Subjects	2020		2021		2022		2023	
	UAH billion	s.g., %	UAH billion	s.g., %	UAH billion	s.g., %	UAH billion	s.g., %
NBU	324.6	32.73	312.6	29.65	704.5	51.12	690	43.90
Banks	514.4	51.87	543.1	51.51	478.6	34.73	649.2	41.30
Non-financial corporations	57.1	5.76	82.4	7.82	106.4	7.72	136.5	8.68
Households	11	1.11	24.9	2.36	29.8	2.16	51.3	3.26
Territorial communities	0.2	0.02	0.08	0.01	1.8	0.13	1.9	0.12
Non-residents	84.4	8.51	91.3	8.66	57.1	4.14	42.9	2.73
Total	991.7	100.00	1054.38	100.00	1378.2	100.00	1571.8	100.00



The presented dynamics have been observed since the crisis of 2008-2009. Therefore, it can be specified that currently there is a process of increasing “quasi-fiscal” operations, or quasi-monetization, which complicates the implementation of an effective monetary policy to ensure price stability, the emergence of a situation of rising inflation and negatively affects the process of managing monetary instruments.

Continuing the discussion about the NBU’s indirect financing of public debt, attention should be paid to the volume of investments in governmental bonds by domestic banks with a state share, which creates an additional source of systemic risk for both the banking system and the economy as a whole (Table 4).

As shown in Table 4, there is an accumulation of such a source of systemic risk as the concentration of exposures: 74.28% of the total portfolio of governmental bonds by banks is concentrated in state banks, which are systemically important. This indicates that in the event of a sovereign default in Ukraine, state-owned banks may become insolvent with a high probability, which theoretically will lead to an increase in costs and, ultimately, may lead to a deep economic crisis.

Accordingly, the issue of strengthening the role of macroprudential policy in the coordination of monetary and fiscal policy, one of the goals of which is to counter the emergence of a systemic crisis, is being brought up to date. In this context, the study by Çelik Mahmut and Ayla Oğus Binatlı (2022) deserves attention. The article undertakes an examination of the efficacy of novel macroprudential policy tools, specifically the Reserve Options Mechanism (ROM) and the interest rate corridor of the Central Bank of Turkey, in mitigating the aftermath of the post-crisis period on the Turkish economy. These instruments were strategically deployed with the aim of managing the exchange rate, the current account balance, and restraining the surge in credit to uphold financial stability. Empirical findings indicate that the adoption of this new macroprudential policy framework effectively attenuates exchange rate fluctuations and enhances the equilibrium of the current account. Consequently, the authors assert that ensuring financial stability encompasses a broader spectrum than merely maintaining price stability, necessitating the engagement of additional regulatory entities in policy formulation.

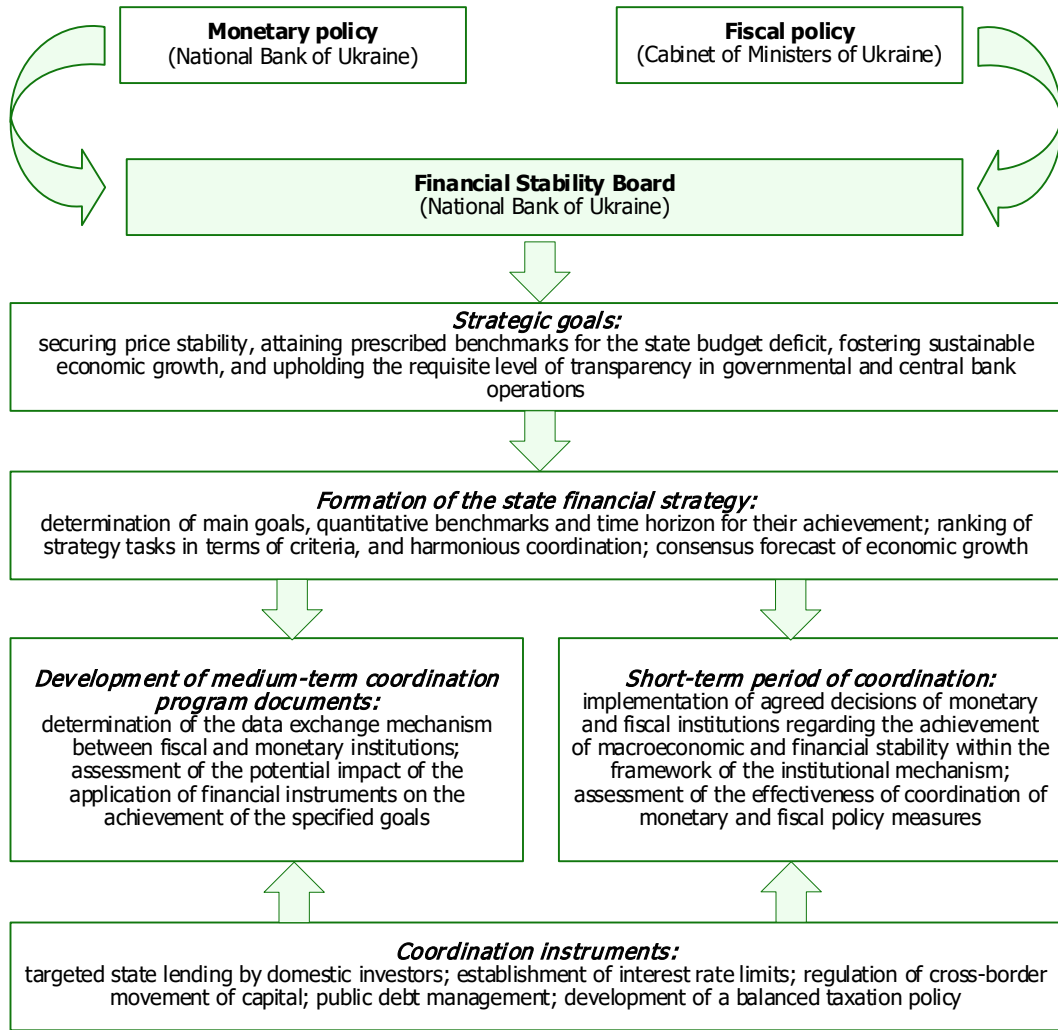
**Table 4. The share of governmental bonds in the assets of state banks and other banks as of November 1, 2022 and November 1, 2023.**  
 (Source: calculated by the authors based on (National Bank of Ukraine, 2024))

Banks	Indicators					
	Share of governmental bonds in net assets, %		Share by size of assets, %		Share by size of governmental bonds portfolio, %	
	2022	2023	2022	2023	2022	2023
JSC CB “PrivatBank”	45,56	38,11	22,82	23,43	48,14	39,64
JSC “Oschadbank”	34,54	32,27	11,48	11,81	18,37	16,92
JSC “Ukreximbank”	21,69	24,29	9,86	8,54	9,90	9,21
AB “Ukrgasbank”	14,89	239,66	6,04	6,06	4,16	6,45
AT “Sense Bank”		12,45		3,73		2,06
State banks total	34,66	55,65	50,19	53,57	80,57	74,28
Other banks	8,43	12,48	49,81	46,43	19,43	25,72
Total	21,59	35,60	100	100,00	100,00	100,00

Andrikopoulos et al. (2023) hold practically the same opinion. The scholars note that the uncertainty of the global economic policy negatively affects the gross inflow of capital. However, the strengthening of macroprudential policy can mitigate this effect by almost 30-40%. The article also concludes that the disaggregation of macroprudential policy instruments proves that the most effective are instruments related to bank capital requirements. In addition, there is heterogeneity of different capital inflows; portfolio investments are most significantly affected, while direct and other types of investment remain unchanged.

At the same time Naumenkova, S. and Mishchenko, S. (2012) proved the necessity for coordination of monetary and fiscal policies within the scope of macroprudential policy implementation, in order to prevent systemic risks associated with the openness of the national economy due to fluctuations in export prices, the introduction of certain sanctions, the use of non-tariff barriers. This affects the exchange rate, the budget deficit and the level of financial stability.

In continuation of the discussed issues, it should be stated that coordination of fiscal and monetary policies is impossible without a developed strategy for such coordination, which must be formed on the dialectical unity of defined goals, and chosen tools for implementing the strategy (Figure 1).



**Figure 1. Purpose and areas of coordination of monetary and fiscal policies.** (Source: systematized by the authors based on (Kuznyetsova et al., 2017; Pasichnyi, 2021; Chugunov et al., 2021))

The process of monetary and fiscal policy coordination is influenced by the state of Ukraine's economy during the war, the main characteristics of which are as follows.

According to the NBU's estimates, in January 2024 the index of business activity expectations decreased to 41% compared to 45.7% in December 2023. The above indicates that negative expectations prevail among the surveyed businesses, which was influenced by the intensity of hostilities, uncertainty regarding the terms and volumes of external financial assistance, the blockade of the western borders, and the increase in production costs for strengthening cyber protection, and the lack of qualified personnel. A change in business expectations is an important subjective indicator of the state of the economy, which indicates a gradual recovery of activity or, on the contrary, a worsening of the situation.

In January 2024, Ukraine received USD 390 million in external financing from Japan, of which USD 90 million was a grant and the rest was a loan. The main source of additional funding for the needs of the state budget was the sale of government bonds. From January 24, 2022, to May 31, 2023, the United States provided approximately USD 71 billion in bilateral financial, humanitarian, and military assistance to Ukraine in response to the Russian invasion that began in February 2022. The second largest commitment was recorded from European Union (EU) institutions such as the Commission and the Council of the EU at approximately €35 billion (Statista, 2024).

Inflation declined from 26.6% to 5.1% in 2023, primarily due to sufficient food supply, the continued stability of the foreign exchange market, and optimistic inflation expectations. However, inflation is expected to accelerate in 2024 due to rising business costs, further pick-up in consumer demand and a low base of comparison.

The NBU left the discount rate at 15%. The yield of one-year military bonds decreased to 16.9%. Average rates on household deposits remain within the 13-14% range but significantly exceed the inflation rate.



Throughout 2023, the NBU relaxed currency restrictions for businesses and households, and in October switched to a regime of managed exchange rate flexibility. The official exchange rate of the hryvnia reached UAH 38.2 per USD 1 and reached a new historical low.

According to the NBU's estimate, GDP grew by 6.5% in the IV quarter of 2023. In general, in the new inflation report, the NBU improved the estimate of GDP growth in 2023 from 4.9% to 5.7%. According to the same forecast, the GDP of Ukraine will grow by 3.6% in 2024 and by 5.8% in 2025. The key prerequisite for economic recovery next year is the reduction of security risks.

Tax revenues to the general fund of the state budget in December 2023 amounted to UAH 97.7 billion. For the first time, monthly income from the PIT exceeded UAH 20 billion. Revenues from domestic VAT remain at the level for the third month in a row (UAH 22.5 billion). Revenues from import VAT recovered to the level of August-September (UAH 35.7 billion). Monthly defence spending increased to UAH 152 billion in November 2023 due to increased purchases. Expenditures on public administration increased by UAH 17.7 billion in monthly terms due to an increase in debt service expenditures by UAH 22.2 billion (Samoiluk, 2024).

Hence, these matters are subject to debate and hold relevance in the context of advancing economic growth in Ukraine through enhanced regulation of the coordination and alignment of monetary and fiscal policies.

## CONCLUSIONS

The coordination of monetary and fiscal policies stands as a fundamental prerequisite for attaining macroeconomic stability and fostering economic growth within a nation. The strategic objectives of socio-economic development remain elusive when fiscal or monetary regulations are applied in isolation over the long term. Empirical evidence from numerous countries underscores the viability of integrating these theoretical constructs through the close interaction of fiscal and monetary policies, particularly during periods of economic downturn.

The repercussions of inadequate coordination between monetary and fiscal policies can lead to profound economic ramifications. It is imperative to harmonize and comprehensively apply the methodologies and instruments of these policies, while meticulously analyzing the pertinent cause-and-effect relationships. Despite their divergent functional mandates, fiscal and monetary authorities share a common overarching objective: enhancing public welfare and realizing the predefined goals outlined in the state's financial strategy.

A critical analysis of scientific approaches to this specific problem has proven that today the coordination of monetary and fiscal policies depends on the degree of balanced regulation of the money market, namely the regulation and balancing of the issue of setting interest rates and controlling inflation.

To justify which monetary and fiscal factors affect economic growth, an economic-mathematical model was built, which is based on the definition of those factors that prove the trend of changes in gross domestic product, namely: consumer price index, growth of monetary aggregate M3, growth of volume of loans granted, the weighted average rate for NBU operations; the ratio of the state budget deficit to GDP, the ratio of external debt to GDP. According to the results of the conducted research, a clear dominance of monetary policy instruments (weighted average interest rate according to NBU instruments) over the factors of the fiscal sphere was established. Thus, the NBU's monetary policy exerts an incomparably stronger influence on economic growth, moreover, a negative one, while fiscal instruments, in particular domestic debt management, allow stimulating the real development of Ukraine's economy.

In conclusion, drawn from the findings of the conducted investigation, it is evident that amidst the challenging political and economic landscape in Ukraine, there is a pressing need to prioritize the enhancement of coordination between monetary and fiscal policies. Specifically, addressing the substantial involvement of monetary authorities in funding the state budget deficit through the acquisition of government bonds stands out as a crucial issue requiring resolution. This situation has been observed in Ukraine for more than a decade, which ultimately violates the principles of independence in decision-making by the NBU. It is necessary to strengthen the role of macroprudential policy in the coordination of monetary and fiscal policies, one of the goals of which is to resist the emergence of a systemic crisis. Ensuring macroeconomic and financial stability. This is impossible without a clearly developed coordination strategy, which would be based on clearly defined goals, and set tasks on the basis of selected methods and tools for their achievement.

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The Authors declare that there is no conflict of interest.

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## МОНЕТАРНО-ФІСКАЛЬНА КООРДИНАЦІЯ В УКРАЇНІ ТА ЇЇ ВПЛИВ НА ЕКОНОМІЧНЕ ЗРОСТАННЯ В УМОВАХ ВОЄННОГО СТАНУ

Метою цієї роботи є дослідження ефективності інструментів монетарної та фіскальної політик, визначення рівня впливу монетарних і фіскальних чинників на економічне зростання, а також обґрунтування шляхів підвищення ефективності координації монетарної та фіскальної політик. Недостатня координація монетарної та фіскальної політик тягне за собою руйнівні економічні наслідки. Критичний аналіз наукових публікацій засвідчив, що сьогодні координація монетарної та фіскальної політик залежить від ступеня збалансованості регулювання процентних ставок і контролю над інфляцією. У дослідженні використана NARDL-модель для визначення основних тенденцій впливу монетарних і фіскальних факторів, а також для емпіричного дослідження їх координації. Результати обчислень установили, що середньозважена ставка за активними інструментами НБУ найбільше уособлює вплив монетарної складової координації, а система управління внутрішнім державним боргом – фіскальної. Участь монетарних органів в управлінні внутрішнім державним боргом на сьогодні залишається дискусійним питанням. Доведено, що на процес узгодження монетарної та фіскальної політик впливає стан економіки України в умовах війни.

Незважаючи на складну політичну та економічну ситуацію в Україні, необхідно зосередитися на покращенні координації монетарної та фіскальної політик. Зокрема врегулювання потребує значний внесок НБУ у фінансування дефіциту державного бюджету за рахунок купівлі державних облігацій. Доцільно посилити роль макропруденційної політики в координації монетарної та фіскальної політик, однією з цілей якої є протидія виникненню системної кризи; сформувати дієву стратегію координації, в основі якої лежали б чітко визначені цілі, завдання, поставлені на основі обраних методів та інструментів їх досягнення.

**Ключові слова:** економічне зростання, інструменти й методи, координація політик, макроекономічна політика, монетарна політика, фіскальна політика

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