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ROLE OF FINANCIAL INSTRUMENTS IN ENSURING LIQUIDITY AND STABILITY OF THE CURRENCY MARKET OF UKRAINE IN THE CONDITIONS OF MILITARY CONFLICT

ABSTRACT

In the conditions of military actions, liquidity of the currency market is of critical importance for the financial stability and security of the state, which stipulates significant relevance of the issue of instruments of liquidity provision. The research aims to identify the influence of the instruments of the National Bank of Ukraine (NBU) on the liquidity of the currency market of Ukraine within the context of long-term military conflict.

The methods of regression analysis, correlation analysis, and analysis of variance were used in the study to determine the leading factors that influence the liquidity of the currency market in Ukraine in the conditions of military conflict.

The study of the liquidity of the currency market through the prism of linear regression reveals the relation between the core economic indicators and the level of liquidity of the currency market during the military conflict. The model with a coefficient of determination 0,774 was found to effectively describe 77,4% of liquidity variability, underlining the significant influence of such factors as central bank policies and macroeconomic conditions. Significant coefficients for central bank interventions (1,7867), regulatory measures (59,8199), volume of international aid (-1,5684) and inflation (-99,9780) indicate their influence on the liquidity of the currency market in the conditions of military conflict. The influence of regulatory measures with a correlation of 0,59 is especially important.

The article emphasises the necessity for minimising dependence on external financing and inflation control through monetary measures to ensure price stability. Further study perspectives involve consideration of the influence of digital currency of central banks on the liquidity of the currency market.

Keywords: financial instruments, liquidity of the currency market, currency market regulation, security, risk

JEL Classification: G1, G15, G21

INTRODUCTION

The world is full of unpredictable exogenous contexts, formed due to long-lasting military conflict. The role of financial instruments in the maintenance of the liquidity and stability of the national currency market becomes especially relevant. The martial law influences the economic stability of Ukraine, which reinforces the importance of the measures, which can ensure financial stability and protection of economic sovereignty. Therefore, there arises the task of studying the possible role of different financial instruments, both traditional and innovative, in strengthening the currency market of Ukraine in the conditions of its liquidity and stability maintenance in difficult circumstances. Financial markets face sharp fluctuations during military conflict, which requires an immediate and adaptive response from the government and regulatory bodies. Stabilisation of currency rate, ensuring access to liquidity for enterprises and citizens, as well as protection from currency risks, become the main tasks in this area. The National Bank of Ukraine (NBU) and other financial institutions implement some instruments from

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interventions in the currency market to the use of derivatives and state guarantees to minimise the negative influence of military conflict on the economy.

While analysing the efficiency of these instruments, it is important to consider not only the aspect of immediate influence on the currency market but also the long-lasting influence on the perspectives of the economic development of Ukraine (Gavkalova et al., 2022). Special attention should be given to innovative financial technologies and instruments, which can ensure flexibility and adaptability of the currency market to changing conditions. In particular, the use of such technologies as blockchain and cryptocurrencies can provide new possibilities for ensuring liquidity and international settlements in combination with the minimisation of external risks and influence of sanctions. In addition to technological innovations. Microeconomic policy and international financial support play a significant role in currency market stabilisation. Cooperation with international financial organisations enables Ukraine to receive necessary financial resources, which contribute to the support of the budget and current reserves.

The other important aspect is the development of the internal financial market in particular through attracting investments into state bonds, which can help to balance currency supply and demand on the internal market and stabilise the national currency. Therefore, in a situation of military conflict, the complex approach to the use of financial instruments is key to ensuring liquidity and stability of the currency market (Petlenko and Schehlyuk, 2014). This involves not only the use of some traditional and innovative financial mechanisms but also an adaptation of economic policy to changing conditions, which requires flexibility and preparedness for immediate reactions to arising challenges.

LITERATURE REVIEW

Many works are dedicated to the analysis of the role of financial security and instruments of financial stability within the context of crises, wartime, as well as volatility risk management in the modern rapidly changing context broadly. Devereux and Yu (2019) study the role of control over the capital and monetary policy in crises, which arise in markets under the influence of uncertainties. Holovach (2022) focuses on the financial security of stock markets in wartime with special emphasis on specific challenges, arising before financial institutions under the influence of armed conflicts. Getmanets and Korobtsova (2023) consider financial security as the factor of military security of the state. Scholer-Iordanashvili (2019) studies the role of derivative instruments in financial stability and underlines that these instruments can be used for risk hedging and reduction of potential volatility in markets. Moskvichenko et al. (2019) indicate that currency rate fluctuations can significantly influence the efficiency of economic sectors.

Cantú and Chui (2020) analyse the relationship between the development of financial markets and financial stability. The researchers also consider the possible contribution or threat of the development of financial markets on the financial security of the state. Fang and Liu (2016) study the influence of financial mediators on the stability of exchange rates and general financial volatility. The researchers indicate potential risks and possibilities for macroeconomic policy. Castillo and Medina (2021) study the influence of intervention policy on the currency market on international capital flows and debt level in foreign currency, which plays a significant role in the stability of the national economy. Shishkov (2022) considers the consequences of martial law introduction for Ukrainian financial markets. The article analyses legislative changes and the reaction of markets to certain conditions, arising due to martial law, their influence on investment activity and stability of financial markets in Ukraine.

Latkovskyi (2022) focuses on the peculiarities of the formation and performance of financial policy in conditions when regular economic mechanisms and instruments are influenced by instability, which requires immediate and effective reactions. Danylyshyn and Bohdan (2022) analyse monetary policy under martial law with a focus on strategies and instruments, which can ensure macroeconomic stability in the conditions of military conflict. Christensen et al. (2019) focus on the role of international participants in the market in ensuring liquidity in bond markets, as well as the influence of these flows on the stability of financial markets in the broader context. Khatat and Veyrune (2019) consider liquidity management in the conditions of the fixed exchange rate. The researchers analyse strategies, which central banks can use to ensure adequate liquidity level in the system, which is critically important to maintain stability of currency rate and economic stability in general. Kravchuk and Lutsyshyn (2023) present modern challenges and methods of adaptation, which market participants were forced to use to continue their activity in the conditions of military conflict. The influence of these conditions on the general stability of the financial system of the state is considered.

Khoury et al. (2020) focus on the study of the influence of military actions on the financial markets of the main states participating in the war in Syria, in particular concerning the correlation between military conflicts and volatility in the financial markets of these states. Menna and Tobal (2018) study the role of interest rates in ensuring financial and price stability in developing countries. Fuster (2019) considers the influence of conflicts on international financial markets and

underlines the possible influence of geopolitical tensions and military conflicts on significant instability in financial markets. Korneev (2022) studies the functioning of the financial system of Ukraine in extreme conditions of martial law. Special attention is given to changes in regulatory policy, initiatives on economic stability maintenance, and strategies for minimising financial risks during military actions. Lafarguette and Veyrune (2021) develop intervention frames on currency markets for central banks, which are based on risk assessment. They offered a methodology which enables central banks to effectively react to undesired fluctuations of currency rates, which minimises negative influence on the economy.

The importance of balance between currency rates and preventing financial imbalances is emphasised. Onour and Sergi (2021) study the influence of political shock on currency markets in a small open economy with the use of instruments of the dynamic model. The analysis is focused on the possible causes of significant fluctuations in currency rates by political events, which have long-term consequences for economic stability and macroeconomic policy. Sadura and Pidhayna (2023) assess the financial stability of the bank system of Ukraine in the conditions of military conflict. Special attention is given to mechanisms of liquidity insurance, credit risks and the influence of the war on bank assets. The presented volume of studies highlights the importance of the mechanisms of influence of external shocks on financial systems, as well as the necessity for the development of effective strategies for adaptation and renovation to ensure economic and financial stability. Still, the instruments of influence of the NBU on the liquidity of the currency market in the conditions of lasting military conflict require additional studying.

AIMS AND OBJECTIVES

The purpose of the article is to determine the influence of the instruments of the central bank on the level of liquidity of the currency market of Ukraine in the conditions of military conflict. Within the set purpose, several tasks were formed:

- to conduct an analysis of the influence of central bank interventions on the change of liquidity of the currency market;
- to conduct regression-correlation analysis to identify relations between central bank interventions and changes in the liquidity of the correlation analysis based on the date of the study set sample;
- to formulate recommendations for the central bank concerning the use of the instruments of monetary policy for optimising the level of liquidity of the currency market.

METHODS

Research Design

The first stage of this study is data collection concerning the state of the currency market of Ukraine and factors influencing it during military conflict for their further analysis within this study. The second stage involved studying the main zones of influence of the distinguished factors on the state of liquidity of the currency market of Ukraine in the conditions of military conflict. Within the economic and statistical instruments of the study, approaches of regressive analysis were used, and its results were deepened due to the use of correlational analysis and analysis of variance (ANOVA). This enabled the identification of the influence of the main factors on the liquidity of the currency market of Ukraine in the conditions of military conflict. The final stage of the study involved the determination of the limitations of the methodology of this study and the practical application of the results of this study. In the end, the conclusions of this study were formulated.

Sample

The studied sample of the data on the state of the liquidity of the currency market and core macroeconomic factors is described below. Its sources are the statistics of the National Bank of Ukraine (2024), SSC of Ukraine (2024), information resources International Monetary Fund (2024) and World Bank (2024), and research services Yahoo Finance (2024). This massive of data includes 100 observations and covers the following variables:

- *The level of liquidity of the currency market (Liquidity)*: dependent variable, that is represented in USD millions, which reflects the general liquidity of the currency market of Ukraine;
- *Central bank interventions (Interventions)* are presented in USD millions, this variable reflects the volume of currency interventions, taken by the central bank for the influence on the currency market;
- *Regulatory measures (Regulation)*: binary variable, where 1 indicates the application of regulatory measures, and 0 indicates their absence, which enables analysis of the influence of regulatory initiatives on the liquidity of the currency market;

- *The volume of international aid (Aid)* is measured in USD millions, this variable demonstrates the amount of international financial aid, which can influence the economic state of the country and liquidity of the currency market;
- *Inflation (Inflation)*: the percentage parameter of the inflation level, which can influence the level of the liquidity of the currency market.

Methods

Within the realisation of the set purpose and tasks of the study, some methods of the analysis of the value of financial liquidity in the maintenance of the liquidity and stability on the currency market of Ukraine during the military conflict were used. The proposed approach involves the following methods:

1. *Regression analysis*, which enables determining interrelation between the independent variable and dependent variable within the context of the volatility of the currency market in the conditions of military conflict.
2. *Correlation analysis*, which is used to measure power and relation direction between two quantitative variables, determines the presence of dependence between variables on the currency market and external and internal factors of the economy.
3. *Time series analysis*, focused on detecting tendencies of cyclic changes or other dynamic characteristics of the currency market, which enables forecasting of future changes on the basis of historical data.
4. *Analysis of variance*, used for the analysis of the influence of different economic policies and conditions (such as regulatory measures of the central bank) on the level of liquidity of the currency market.

The dependent variable is the level of liquidity of the currency market (Liquidity). This variable presents the state of liquidity of the currency market of Ukraine during military conflict.

Independent variables are represented by the following variables: Central bank interventions (Interventions) reflect the volume of currency interventions, conducted by the NBU for the influence on the currency market within the context of military conflict; Regulatory measures (Regulation) are a binary variable, where 1 indicates the application of regulatory measures, and 0 indicates their absence, which enables to analyse the influence of regulatory initiatives on the liquidity of the currency market of Ukraine in the conditions of military conflict; The volume of international aid (Aid) indicates the amount of international financial aid, which can influence the economic state of the country and liquidity of the currency market of Ukraine in the conditions of military conflict; Inflation (Inflation) reflects dynamics of prices in the state, which influences the level of liquidity of the currency market in the conditions of military conflict. Variables of the model are presented in Table 1. The studied changes are outlined on the basis of previous studies by Fuster (2019), Khoury et al. (2020), Korneev (2022), Lafarguette and Veyrune (2021), Onour and Sergi (2021), Sadura and Pidhayna (2023), BIS (2022), Sveriges Riksbank (2022), Rakis (2022), European Bank of Reconstruction and Development (2022).

| Variable | Comment |
|---|---|
| Liquidity level of the currency market of Ukraine | Measured in USD millions, this variable represents the total availability of foreign exchange assets in the market that can be easily bought or sold without a significant change in price |
| NBU interventions | Indicates the volume of central bank interventions in the foreign exchange market, measured in USD millions. Interventions may include the purchase or sale of currency to stabilise or regulate exchange rates |
| Regulatory measures | A binary variable, where "1" indicates the application of regulatory measures, and "0" indicates their absence. These measures may include policies aimed at controlling volatility, protecting investors, or ensuring market transparency |
| International aid | Measured in USD millions, this variable shows the amount of financial assistance provided by other countries or international organisations. International aid can affect economic stability and liquidity |
| Inflation | Measured as a percentage, it indicates the annual percentage increase in the level of prices for goods and services. High inflation can increase uncertainty in the market and affect the level of liquidity due to changes in the purchasing power of the currency |

For the analysis of the data of the studied set sample in this study, we used program complexes (MS Excel, R). This study has limitations, as the model cannot consider separate aspects influencing the environment of the currency market of Ukraine in the conditions of military conflict. To overcome the mentioned limitations, the data were regularly verified and updated within updates of the massive amount of data and actualisation of the state of the currency market of Ukraine in the conditions of military conflict.

RESULTS

The results of linear regression based on the studied data sample demonstrate:

1. The R-squared value amounts to 0.774, which indicates that the model explains approximately 77.4% of variants of the dependent variable (the level of liquidity of the currency market). This indicates the high efficiency of the model in forecasting the level of liquidity of the currency market based on the studied independent variables.
2. Model coefficients for all independent variables (central bank interventions, regulatory measures, volume of international aid, inflation) are statistically significant ($p < 0.05$), which indicates the presence of reliable linear relations between these variables and the level of liquidity of the currency market.
3. The coefficient for central bank interventions is 1.7867, which indicates a significant positive influence of interventions of the NBU on market liquidity.
4. The coefficient for regulatory measures is significant and is 59.8199, which indicates a significant positive influence of these measures on market liquidity.
5. The coefficient for the volume of international aid has a negative value (-1.5684), which indicates that with the increase in international aid, the level of liquidity of the currency market reduces, due to the increased dependence on external financing.
6. The inflation coefficient has a value of -99.9780, which confirms the negative influence of high inflation on the level of liquidity of the currency market.

These results indicate the significant influence of the mentioned factors on the liquidity of the currency market, which demonstrates the importance of interventions of regulatory policy, international aid and macroeconomic stability to ensure liquidity in financial markets. The regression equation is as follows:

$$Liquidity = 1574.63 + 1.79 \cdot Intervention + 59.82 \cdot Regulation - 1.57 \cdot Aid - 99.98 \cdot Inflation$$

The results of the regression model can be interpreted as follows:

1. Central bank interventions (1.79): Each additional USD 1 million, spent by the central bank for interventions, on average increases the level of liquidity of the currency market by USD 1.79 million. This indicates the positive influence of the central bank interventions on the liquidity level through the increase of currency availability on the market.
2. Regulatory measures (59.82): When the central bank uses regulatory measures (variable receives the value 1), the level of liquidity of the currency market increases on average by USD 59.82 million. This indicates that regulatory measures have a significant positive influence on liquidity, through the creation of a more favourable investment climate and reduction of risks on the market.
3. The volume of international aid (-1.57): The increase in the volume of international aid by USD 1 million, on average, decreases the level of liquidity of the currency market by USD 1.57 million. This result indicates that an increase in international aid is related to macroeconomic difficulties or increased dependence on external financing, which does not contribute to the liquidity of the currency market.
4. Inflation (-99.98): An increase in the inflation of international aid by 1 percentage position, on average, decreases the level of liquidity of the currency market for USD 99.98 million. This indicates the negative influence of inflation on the liquidity of the currency market due to the reduction of purchasing power and increase in uncertainty in the economy. The received results emphasise the importance of the policy of the central bank and microeconomic conditions in ensuring the liquidity of the currency market in the conditions of military conflict. The results also emphasise the difficulty of interaction between different economic variables and their influence on financial markets. The results of economic and statistical analysis, based on the regression model, are presented in Table 2.

Table 2. Key results of regression analysis for the researched data sample.

| Indicator | Coef. | P-value | Influence on liquidity |
|----------------------------|--------|---------|------------------------|
| Central bank interventions | +1.79 | < 0.05 | Positive |
| Regulatory actions | +59.82 | < 0.05 | Positive |
| International aid | -1.57 | < 0.05 | Negative |
| Inflation | -99.98 | < 0.05 | Negative |

These results indicate a statistically significant influence of the complex of factors, including regulatory measures, central bank interventions, the volume of international aid and the level of inflation, on the stability and liquidity of the currency market. The analysis showed that the P-value for all mentioned variables is significantly lower than 0,05 which underlines their significance and influence on the dynamics of the liquidity of the currency market. This statistical significance confirms that variables have a significant influence on the state of liquidity of the currency market. The received results emphasise the critical role of active regulation policy, conducted by the central bank through the use of various instruments. Such actions are directed at ensuring the stability of the currency market, prevention of crisis events, as well as maintenance of the general economic stability of Ukraine.

It is worth noting that the efficiency of these regulatory instruments and interventions depends on their adequate use and temporary agreement with the current economic situation and global tendencies. In addition, the volume of international aid received by the country also plays a significant role in strengthening the currency market, which ensures necessary resources for maintaining liquidity and investors' confidence. Such aid can serve as a stabilisation factor as well as a means of encouraging the implementation of structural reforms. Hence, inflation is the key factor directly influencing the liquidity of the currency market by the change of the purchasing power of the monetary unit and influence on investment decisions and public savings. Inflation management requires the central bank to use a complex of monetary instruments to ensure price stability and preserve trust in the national currency. Considering the above-mentioned results, we emphasise that efficient currency market regulation is a complex task, which requires the central bank not only to react to current economic conditions but also to predict future tendencies and adapt the policy to them. The important aspect in this area is international cooperation and information exchange with international financial organisations and central banks of other states, which enables effective counteraction to global financial challenges in the conditions of military conflict.

The role of interaction between different regulatory measures and instruments of the policy of the central bank required profound analysis and understanding of the interrelation between macroeconomic indicators and market behaviour. For example, regulation of interest rates, operations on the open market, currency interventions, as well as statutory regulation of the liquidity of the bank system should be arranged so as to ensure optimal balance between stimulation of economic growth and preventing inflation pressure. It is worth noting that the development of digital currency and financial technologies opens new possibilities for regulation and management of the liquidity of the currency market. Within this context, central banks actively study the potential of digital national currencies and other innovative instruments for the improvement of payment systems, increase of transparency and efficiency of market operations.

These preliminary studies can be used in Ukraine with consideration of national specifics and urgent market needs in the conditions of military conflict. In conclusion, these results and analysis indicate the necessity of a complex approach to currency market regulation, which combines traditional macroeconomic instruments with innovative decisions. Such an approach enables the NBU to effectively influence market liquidity, ensuring financial stability and contributing to stable economic growth in the conditions of military conflict.

Correlation analysis was conducted within the complex of economic and statistical methods of analysis. It deepened the received results. Correlation analysis of the data sample demonstrates the following significant relations between variables:

1. Central bank interventions have a moderate positive correlation with the level of the liquidity of the currency market (correlation: 0,43) which indicates that an intervention increase is usually associated with a higher liquidity level.
2. Regulatory measures have a strong positive correlation with the liquidity level (correlation: 0,59) which underlines that the introduction of regulatory measures mostly contributes to the increase in the liquidity in the market.
3. The volume of international aid has a weak correlation with the liquidity level (correlation: -0,20), which indicates a potentially negative influence of the increase in international aid on the market liquidity.
4. Inflation demonstrates a negative correlation with the liquidity level (correlation: -0,4), which confirms that higher inflation can have a negative influence on the liquidity of the currency market.

Correlation analysis results are presented in Figure 1. These results of correlation analysis are arranged with the previous interpretations of the regression model.

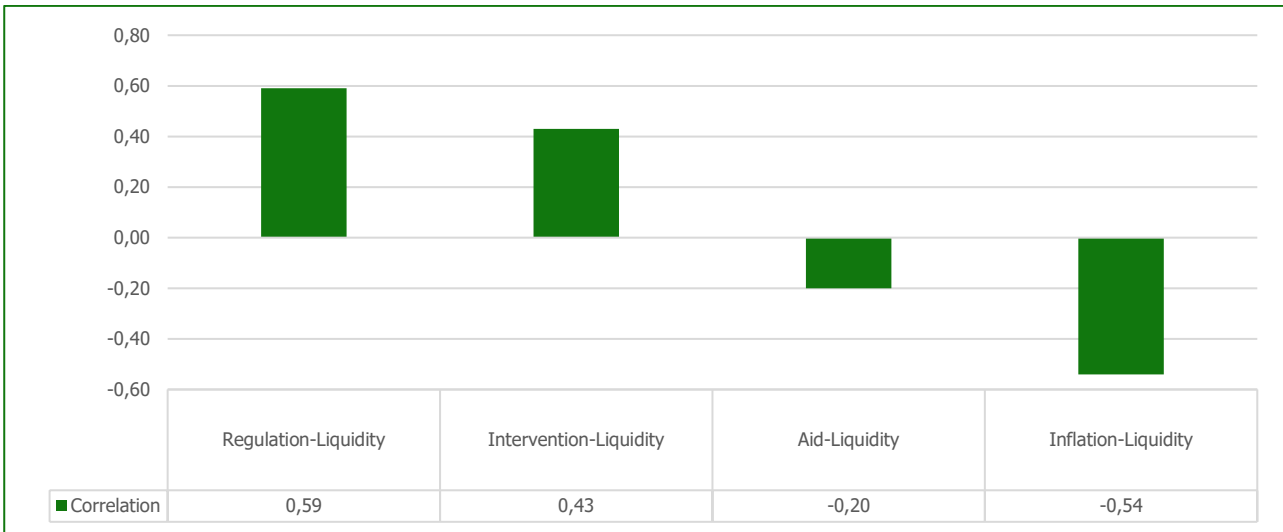


Figure 1. Correlation analysis results for the analysed dataset.

The received results provide additional confirmation of the influence of the mentioned variables on the level of liquidity of the currency market in the conditions of military conflict. Correlation analysis results are presented in graphics in Figure 2.

| | NBU Interventions | Regulatory actions | International aid | Inflation | Liquidity |
|--------------------|-------------------|--------------------|-------------------|-----------|-----------|
| NBU Interventions | 1 | 0.18 | -0.04 | 0.12 | 0.43 |
| Regulatory actions | 0.18 | 1 | 0.01 | -0.13 | 0.59 |
| International aid | -0.04 | 0.01 | 1 | -0.06 | -0.2 |
| Inflation | 0.12 | -0.13 | -0.06 | 1 | -0.54 |
| Liquidity | 0.43 | 0.59 | -0.2 | -0.54 | 1 |

Figure 2. Correlation matrix for the analysed dataset.

Interrelation between study variables is presented on the correlation matrix. These correlation values vary from -1 to 1, where closer to -1 means a strong negative correlation, closer to 1 - indicates a strong positive correlation, and values close to 0 indicate weak or absent linear relations. The main observations from the correlation matrix are as follows. First, regulatory measures have a noticeably positive correlation with the level of liquidity of the currency market, which confirms that the measures implemented by the central bank have a significant influence on liquidity maintenance. Second, inflation demonstrates a significant correlation with the level of liquidity, which indicates a potentially negative influence of high inflation on the stability of the currency market. Third, other variables, namely central bank interventions and volume of international aid also influence liquidity, although their correlation is less expressed compared to regulatory measures and inflation.

Within the complex of economic and statistical analysis of this study, analysis of variance (ANOVA) was conducted to evaluate the influence of categorical variables (for example, regulatory measures) on the level of liquidity of the currency market. ANOVA enables evaluation of the presence and absence of statistically significant differences in the levels of liquidity of the currency market between the groups with different use of regulatory measures. Based on the analysis of variance (ANOVA) the following results were received: F-statistics amounts to 52,49 which indicates a statistically significant influence of regulatory measures on the level of liquidity of the currency market. P-value (PR(>F)): approximately $9,96 \times 10^{-11}$, which confirms that the difference in the levels of liquidity between the groups with different regulatory measures is statistically significant. This means that regulatory measures, taken by the central bank, have a significant influence on the level of liquidity of the currency market, and their introduction can contribute to the support or increase of the level of liquidity. Therefore, this is an important aspect of formulating monetary policy and strategies for currency market regulation. The results of the ANOVA analysis of the influence of regulatory measures on the level of liquidity of the currency market are presented in Table 3.

Table 3. Results of ANOVA analysis for the researched data sample.

| Variation source | Sum of squares | Degrees of freedom | F-statistic | P-value |
|--------------------|------------------------|--------------------|-------------|------------------------|
| Regulatory actions | 9.015572×10^6 | 1 | 52.49 | 9.96×10^{-11} |
| Residual | 1.683177×10^7 | 98 | | |

Based on the received results of the analysis, the following recommendations for the policy of the central bank in the studied context were formed:

1. *Active use of currency interventions:* The data indicate a positive relation between interventions of the central bank and the level of liquidity of the currency market. The central bank can use this instrument to stabilise the market and maintain liquidity, especially during periods of high volatility.
2. *The use of regulatory measures in case of necessity:* A strong positive correlation between regulatory measures and the level of liquidity underlines the efficiency of such measures to maintain market stability. The central bank should consider the introduction or correction of regulatory measures as the means for ensuring liquidity and trust in the market.
3. *Well-thought use of international aid:* International aid can have short-term positive effects on the economy; however, analysis results indicate a potential negative influence on the liquidity of the currency market. The central bank should consider this aspect when planning the use of such aid and seek methods of minimising negative effects or integrating these resources into the economy more effectively.
4. *Inflation monitoring and its control:* A negative correlation between inflation and liquidity of the currency market underlines the importance of the control of inflation to support liquidity. The central bank should focus on the instruments of monetary policy, which can help to maintain inflation within target indicators, which contributes to the stability of the currency market. These recommendations should be considered as strategic directions, which require further detailing and adapting to the specifics of the existing context and changing market conditions.

DISCUSSION

The offered study identified the role of the substantiated policy of the central bank within the context of improving the state of liquidity of the currency market in the conditions of military conflict. The key role of inflation stabilisation in the maintenance of proper liquidity of the currency marketing conditions of uncertainty that is characteristic of military conflict was outlined. The importance of the analysed central bank interventions in support of the proper liquidity of the currency market of the country in conditions of non-standard crisis, caused by the military conflict, is emphasised. These ideas are supported by the earlier study by Devereux and Yu (2019) and Kuznetsova et al. (2020) in relation to the efficiency of different instruments of the policy of the central bank to prevent or mitigate the consequences of financial crises.

The importance of a balanced monetary policy and limitations for capital flows as a means of economic protection from the negative influence of external flows is indicated. The offered approach is supported by the results of the previous work by Holovach (2022) concerning challenges and strategies for the stock markets during periods of military conflicts with the emphasis on the necessity of adaptation to quickly changing conditions and preserving the stability and trust of investors. In turn, the previous work by Getmanets and Korobtsova (2023) noted that the stability of the financial system is a critically important factor for ensuring national security. Different aspects of financial security, including protection from financial fraud, risks associated with terrorist financing, and other threats in the conditions of military conflict were considered. This idea is supported by previous work by Scholer-Iordanashvili (2019) concerning possible methods of derivatives use for risk hedging and reducing volatility in financial markets. Attention is paid to potential risks, which derivatives can make, especially in conditions of insufficient regulation or lack of transparency. Informed use and regulation of derivatives are emphasised to be able to significantly contribute to the stabilisation of financial markets.

In turn, within the studied context, the work by Castillo and Medina (2021) underlines that informed actions of the central bank concerning interventions can reduce the volatility of the currency rate and stabilise capital flows. Herewith, at the same time, the risk of dependence of the economy on currency obligations rises. Additionally, the earlier study by Shishkov (2022) underlines the influence of the introduction of martial law on Ukrainian capital markets and emphasises the urgent need in the system of measures of government and central bank, which are directed for a long-term perspective. Here, the need to increase the investment attractiveness of the state in the long-term contest is emphasised. This idea is supported by other previous work by Sadura and Pidhayna (2023), which emphasises that martial law influences the banking sector, resilience in the face of challenges and possible ways of adaptation to new work conditions in the currency market.

Additionally, Korneev (2022) focused on the need for informed approaches to the determination of strategies and mechanisms for overcoming crisis phenomena in the financial market in the conditions of military conflict. The necessity of an increase in financial stability is emphasised, firstly in relation to the liquidity of the currency market. In turn, the previous work by Latkovskiy (2022) considers changes in budgetary policy, tax regulation, as well as mechanisms of financing defence needs and emphasises the importance of flexible and effective financial policy to support economic stability and meet defence needs, which should be considered in the tasks of supporting liquidity of the currency market. Within this context, the earlier work by Danylyshyn and Bohdan (2022) emphasises that traditional instruments of the monetary policy require adaptation for the military context with a special focus on the support of national currency, ensuring the liquidity of the bank system and inflation control. Effective monetary policy is emphasised to be able to contribute to the reduction of negative economic consequences of the war and support of financial stability.

At the same time, the offered study emphasises that inflation control is a critical aspect of economic policy in the conditions of military conflict, as high inflation can undermine economic growth in general and reduce the liquidity of the currency market, in particular in the conditions of military conflict. Herewith, effective use of international aid can ensure additional support for economics, which contributes to its stabilisation and growth, but at the same time, it requires profound analysis of its influence on internal economic processes, including in relation to the liquidity of the currency market. In such a way, the complex approach to inflation control, which includes such monetary instruments as a profound understanding of macroeconomic interrelations, is key for ensuring price stability, maintaining trust in the national currency market and liquidity of the currency market in the conditions of military conflict.

CONCLUSIONS

The study of the liquidity of the currency market with the use of the method of linear regression has found a significant correlation between several key factors and the level of liquidity. The main conclusions include a high determination coefficient (R-squared) on the level 0,774, which demonstrates that the used model effectively explains approximately 77,4% of variants of the liquidity level. Statistically significant coefficients for the variables such as central bank interventions (1,7867), regulatory measures (59,8199), volume of international aid (-1,5684) and inflation (-99,9780) indicate their influence on the liquidity of the currency market.

The received results emphasise that the policy of the central bank and macroeconomic conditions play a decisive role in ensuring the liquidity of the currency market, especially in the conditions of military conflict. Correlation analysis supports these conclusions and, in particular, indicates a significant correlation between the mentioned variables and the level of liquidity of the currency market. Especially important is the influence of regulatory measures with the highest correlation coefficient (0,59) which indicates their efficiency in liquidity maintenance. Statistically significant coefficients for the variables such as central bank interventions (1,7867), regulatory measures (59,8199), volume of international aid (-1,5684) and inflation (-99,9780) indicate their influence on the liquidity of the currency market. These results emphasise that the policy of the central bank and macroeconomic conditions play a key role in ensuring the liquidity of the currency market in the conditions of military conflict.

Considering the negative influence of the increase in the volume of international aid and high inflation on the liquidity of the currency market, the central bank should consider minimising dependence on external financing and inflation control. Inflation control can include monetary measures such as correction of the accounting rate or change in the requirements to bank reserves to ensure price stability and maintain trust in national currency. Additionally, the results indicate the necessity of a more detailed study of the interaction between macroeconomic variables and their influence on the liquidity of the currency market. This can include additional studies of the role of international aid in the economy and methods of its effective use for maintaining the stability of the currency market without negative influence on liquidity.

Further study perspectives involve consideration of the potential of the use of digital currency by the central bank to influence the liquidity of the currency market in the conditions of military conflict.

ADDITIONAL INFORMATION

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CONFLICT OF INTEREST

The Author declares that there is no conflict of interest.

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Журба О.

РОЛЬ ФІНАНСОВИХ ІНСТРУМЕНТІВ ДЛЯ ЗАБЕЗПЕЧЕННЯ ЛІКВІДНОСТІ Й СТАБІЛЬНОСТІ ВАЛЮТНОГО РИНКУ УКРАЇНИ В УМОВАХ ВОЄННОГО КОНФЛІКТУ

Ліквідність валютного ринку в умовах воєнних дій становить критичну важливість для фінансової стабільності й безпеки держави, що зумовлює значну актуальність питання інструментів забезпечення ліквідності. Метою дослідження є ідентифікація впливу інструментів НБУ на ліквідність валютного ринку України в контексті тривалого воєнного конфлікту. У дослідженні застосовано методи регресійного, кореляційного, варіаційного аналізу для виявлення провідних факторів впливу на ліквідність валютного ринку в Україні в умовах воєнного конфлікту. Дослідження ліквідності валютного ринку через призму лінійної регресії розкриває зв'язок між ключовими економічними показниками та рівнем ліквідності валютного ринку під час воєнного конфлікту. Виявлено, що модель із коефіцієнтом детермінації 0,774 ефективно описує 77,4% варіативності ліквідності, підкреслюючи значний вплив факторів, таких як політика центрального банку та макроекономічні умови. Значні коефіцієнти для інтервенцій центрального банку (1,7867), регуляторних заходів (59,8199), обсягу міжнародної допомоги (-1,5684) та інфляції (-99,9780) свідчать про їхній вплив на ліквідність валютного ринку в умовах воєнного конфлікту. Особливо важливим є вплив регуляторних заходів із кореляцією 0,59. Підкреслено необхідність мінімізації залежності від зовнішнього фінансування та контролю інфляції через монетарні заходи для забезпечення цінової стабільності. Перспективи досліджень передбачають урахування впливу цифрової валюти центрального банку на ліквідність валютного ринку.

Ключові слова: фінансові інструменти, ліквідність валютного ринку, регулювання валютного ринку, безпека, ризик

JEL Класифікація: G1, G15, G21