Currency Exchange Rate Formation in Ukraine: Problems and Ways of Optimization

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Abstract. The conducted analysis proved the presence of quite diverse trends in the foreign exchange market of Ukraine: the national currency is undervalued, the exchange rate is unstable, a significant burden on the financial system as a whole due to the growth of public debt, a high level of dollarization of the economy. That is, on the one hand, there are destructive processes, including those of a chronic nature. On the other hand, the national currency market quickly and easily picks up new opportunities that come to all spheres of economic life, related to digitization and electronic means of trade.

It was revealed that of the key macroeconomic variables that determine the exchange rate: gross domestic product, government debt, gold and foreign exchange reserves, balance of payments, inflation, it is inflation that has the greatest influence on the exchange rate.

Key macroeconomic parameters determining the state of the foreign exchange market can have a destabilizing effect on the foreign exchange market both at a fixed and at a floating exchange rate. It has been proven that the use of any of these regimes in their "pure" form is particularly risky for the economy. An algorithm for making a decision on softening/increasing course flexibility was proposed.

Keywords: currency, currency policy, currency market, currency regulation, exchange rate regime.

1. INTRODUCTION

Due to economic and political factors, the currency market of Ukraine demonstrates a high degree of dependence on the situation on the world currency market. In the conditions of war, the importance of foreign exchange earnings, the stability of the national currency exchange rate, ensuring a sufficient level of gold and foreign exchange reserves and ensuring the full functioning of the national currency market as a whole are critically important.

Such scientists as Derkach Yu., Rudkovsky D., Sharova S., Centeno M., Dombrovskis V. [4-6, 12] devote their works to the analysis of currency markets, identification of problems and the search for their solutions. Certain aspects of the functioning and regulation of the foreign exchange market in the conditions of martial law were studied in the works of Bohdan T., Gaidai Yu., Kozyuk V., Mincheva Yu., and Tarasovsky Yu. [1, 7, 14].

The conditions of the martial law objectively demand a thorough and comprehensive assessment of the state of the currency system of the country, however, such studies are currently insufficient. That is why a comprehensive study of trends, problems, and prospects for the development of the currency market is really in demand.

2. METHODOLOGY

The evaluation of the state of the foreign exchange market of Ukraine and exchange rate formation was carried out with the help of a systematic analysis when studying the functioning and regulation of the foreign exchange market, correlation analysis when identifying the degree of dependence of the hryvnia exchange rate on basic macroeconomic variables, comparison – when evaluating exchange rate formation regimes.

3. RESULTS AND DISCUSSION

The dynamics of the exchange rate affects a number of economic parameters of the country: the state of the balance of payments, the state budget, the level of domestic prices, aggregate demand, and supply, which means the levels of wages and tax revenues.

Moreover, it is not just a chain of interconnected, clearly directed reactions. Changes in the amplitude of the exchange rate simultaneously trigger a number of processes that can reinforce each other or have a mutually offsetting effect, have both a positive and a negative impact. The national currency market, despite its relatively short history, has been quite unstable since the very beginning of its existence, despite the fact that experts consider it to be quite regulated [2, 12, 17, p. 18].

Regulation of exchange rate formation in Ukraine began with a fixed exchange rate and then alternated with strengthening and weakening of state control of this process. The validity of applying one or another approach should be determined, first of all, by the current situation and strategy, which are determined by the national interests of the country.

Analysis of the dynamics of the official exchange rate of the hryvnia against the US dollar (hryvnia for 100 US dollars) over the past 20 years allows us to distinguish several periods (Fig. 1).

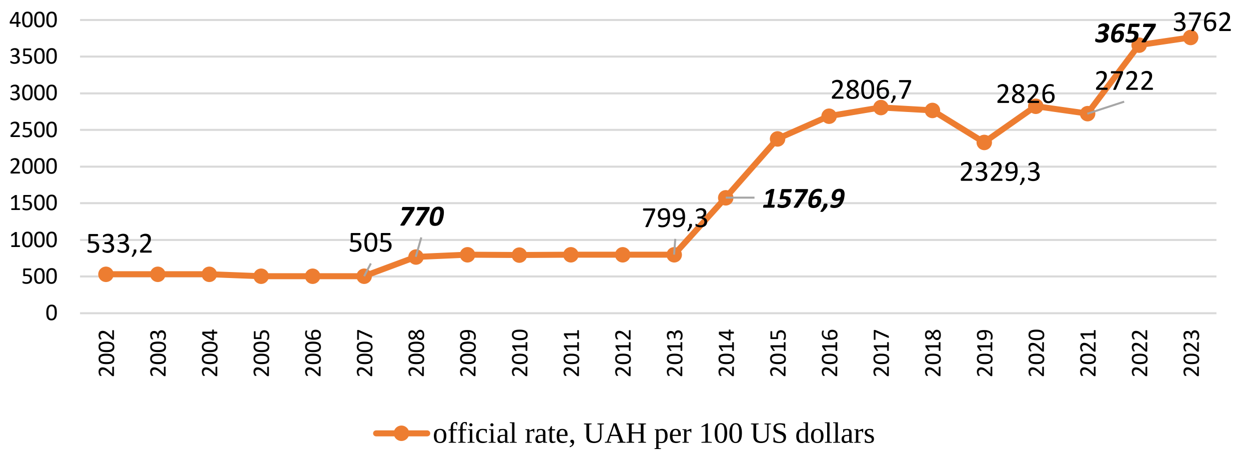

Fig. 1 Official exchange rate of the hryvnia, 2002–2023.

a) 2002–2007 – can be characterized as stable, during this period the currency corridor was 505.0 – 533.2 UAH/100 US dollars;

b) 2008–2013 – the hryvnia exchange rate increased sharply due to the global financial crisis, but it was managed to stabilize and keep within the currency corridor 770.0 – 799.3 hryvnias/100 US dollars;

c) 2014–2019 – starting from 2014, along with the beginning of the war, the hryvnia loses its value. However, after the shock of 2014, the foreign exchange market gradually adjusted to new realities, the economy stabilized, and the measures taken by the National Bank had their effect, and already in 2018–2019, the hryvnia began to strengthen. If in 2017, 100 US dollars cost 2,806.7 UAH, then in 2019 – already 2,329.3 UAH. As already mentioned above, the National Bank made a decision to liberalize the movement of capital and currency transactions. The adopted changes were accumulated in the Law of Ukraine No. 2473-VIII of June 21, 2018 "On Currency and Currency Transactions" [10]. Let's dwell in more detail on its key aspects. According to this Law:

- permission is granted for almost all types of currency transactions, if they are not directly prohibited by the Law;
- "Regulations on currency supervision" were adopted, which changed the approach to currency control; from now on, regulation is carried out on the basis of a risk-oriented approach, that is, not according to the principle of absolute control, but depending on the riskiness of the operations carried out - the greater the risk, the greater the control;
- recipients of loans in foreign currency were exempted from the obligation to register these contracts, now it is enough only to notify the relevant institutions;

- the requirements for calculations for export-import transactions have been simplified, in particular, the conditions for charging a penalty in case of late payment of foreign currency conversion; in addition, the list of grounds for stopping penalty accrual has been increased.

Before the adoption of the specified Law, the population did not have the right to open accounts in foreign currency without the permission of the National Bank (without a license), part of the requirements for operations were replaced by e-limitation. Experts estimate that a total of about twenty relaxations have been introduced.

But this positive dynamic was lost due to the Covid pandemic.

d) 2020–2021 – another jump took place in 2020 – 2,826.0 UAH/100 USD. But the gradual reduction of tension in the world around the pandemic, the restoration of production and trade processes in their usual mode had a positive effect on the financial sphere as well, including a slight but still strengthening of the hryvnia.

e) 2022- … – full-scale Russian military aggression against our country was immediately reflected in the national currency rate. According to the official exchange rate, at the end of 2022, 100 US dollars cost 3,657.0 hryvnias. Thus, in the period 2002-2023, the hryvnia exchange rate fell almost 7 times.

Analysis of exchange rate formation is impossible without consideration of key macroeconomic indicators of the country's development.

During the period 2010–2023, the public debt of Ukraine increased from 54,289.3 million US dollars to 133,615.4 million US dollars, respectively, that is, more than 2.5 times (Fig. 2). Such expenses are related to the need to support the national currency exchange rate and gold and foreign exchange reserves, payment for the import of energy carriers, and covering the deficit of the state budget. But significant debt obligations undermine confidence in the national currency, increase the dependence of the national financial system on the situation on foreign markets, create prerequisites for the growth of the money supply, and therefore increase inflationary processes and exert devaluation pressure on the hryvnia.

The latter, in turn, complicates the servicing of foreign debt, forcing to resort to new borrowings. Already at the beginning of the full-scale invasion, Ukraine's external debt was assessed as critical.

Since the 2008 crisis, Ukraine's gold and currency reserves have been shrinking and reached their minimum in 2014 – 7,533 million US dollars. In the future, this indicator showed a steady upward trend and in August 2023, thanks to the support of Western partners, it reached its maximum – 41.7 billion US dollars.

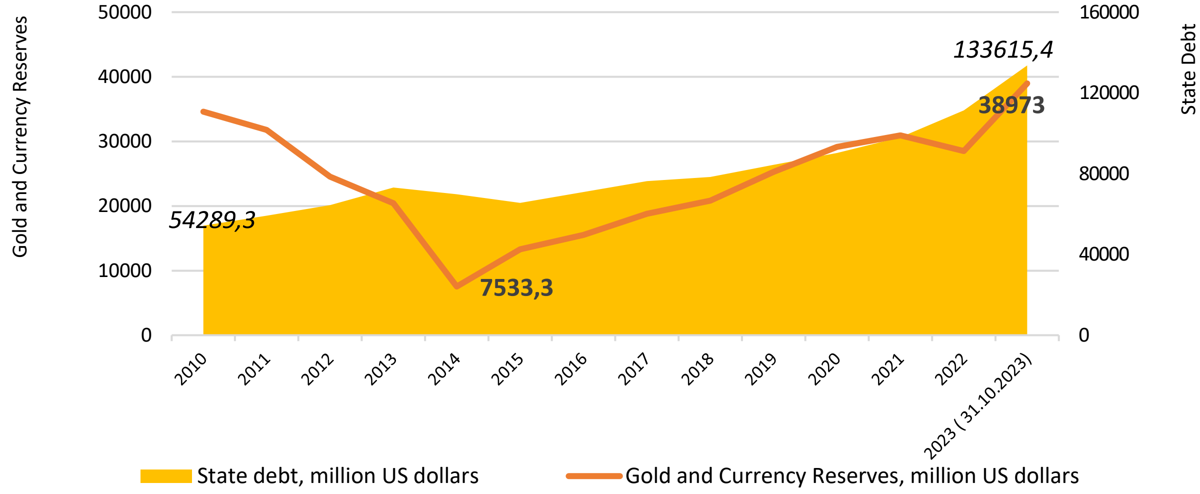

Fig. 2. Gold and currency reserves and public debt of Ukraine, 2010–2023.

Over the last decade, the balance of payments of Ukraine "settled" in 2011-2012 due to the drop in prices for raw materials on international markets and in 2014 and 2022, which is associated with Russian military aggression (Fig. 3). Exports are an important source of foreign exchange earnings for the Ukrainian economy. At the same time, a weak hryvnia is beneficial for commodity-oriented exports. Therefore, the balance of payments is not only an economic, but also a political variable for the country's government.

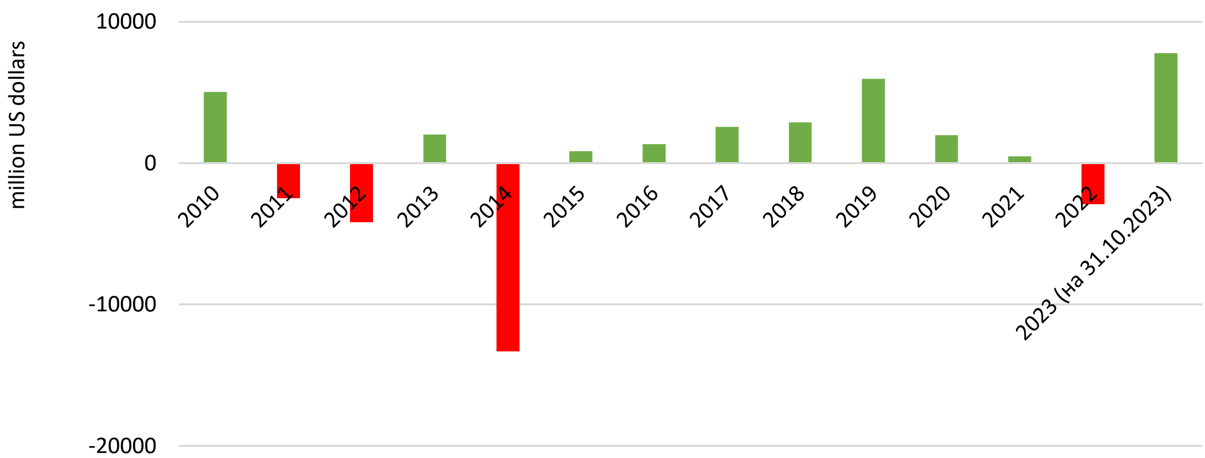

Fig. 3. The balance of payments of Ukraine, 2010–2023.

A feature of the national currency market is the supply of foreign currency among households by remittances from labor migrants from abroad, which amounted to 11.9 billion US dollars in 2019; 12 billion USD in 2020; 14 billion USD in 2021; 13 billion US dollars in 2022 [11]. At the same time, hryvnia deposits are predominant and, despite the war, have been growing both among legal entities and individuals for the past three years. However, foreign currency savings of Ukrainians are also growing with the difference that citizens keep them mostly at home: yes, in 2021 they were estimated at 99 billion US dollars, and in 2023 – 116 billion US dollars [8]. Since 2014, the volume of buying and selling currency has been growing steadily, also through official channels.

The Ukrainian economy is characterized by a high degree of dollarization, which carries with it a number of risks: hypersensitivity of both the private sector and households to exchange rate fluctuations; decrease in the effectiveness of instruments of state regulation of the foreign exchange market; complicating the fight against inflation.

According to the results of 2022, Ukraine is the third in the world ranking in terms of the volume of cryptocurrency, and the first in terms of the number of owners of cryptoassets, which in absolute terms is 5.5 million people.

Currently, the crypto market remains poorly regulated, due to which the state budget did not receive $49 billion in tax revenues for the period 2016–2022. In parallel with this, the government and the National Bank launched the "E-hryvnia" project in 2021 with the aim of approving the introduction of the digital hryvnia into circulation [3, 15].

The indicators of the gross domestic product have the greatest importance for the dynamics of the exchange rate. Only a currency supported by the capacities of the real sector can be truly stable [5, 13]. As numerous empirical studies show, there is a strong relationship between the dynamics of these indicators: the larger the country's gross domestic product, the stronger the currency's position.

The dynamics of the level of the country's gross domestic product (both real and nominal) during 2012–2022 shows a stable initial trend (Fig. 4).

If in 2012 the nominal gross domestic product amounted to UAH 1,408,889 million, then in 2022 it will reach UAH 5,191,028 million, that is, it has increased by 3.7 times. During the same period, the hryvnia weakened its position by 4.6 times.

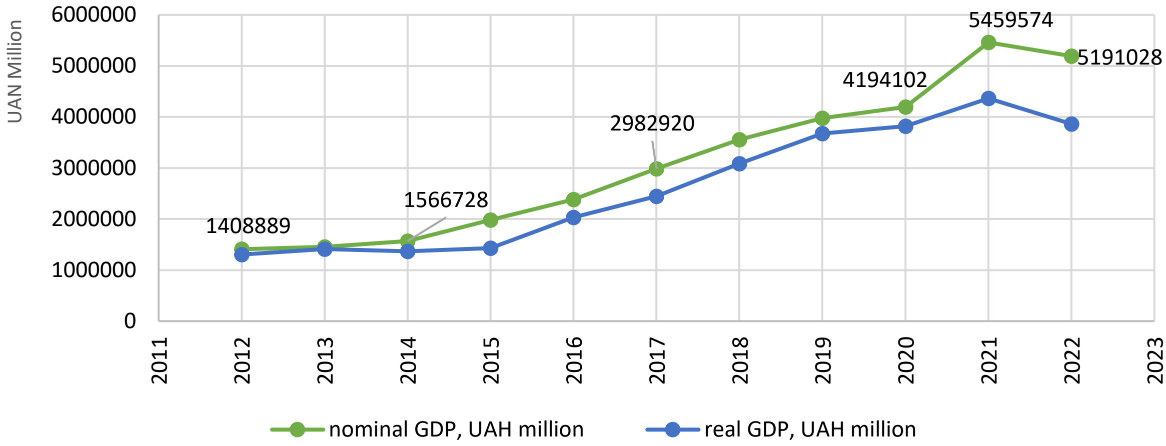

Fig. 4. Dynamics of nominal and real Gross Domestic Product, 2011–2023.

According to the data of the World Bank and the International Monetary Fund, which estimate the gross domestic product in US dollars, this indicator shows a significant amplitude (Fig. 5) [16]. Having analyzed these data, it can be seen that the dynamics of this indicator have the same segments, so to speak, that coincide in time with those periods that were highlighted above when analyzing the dynamics of the hryvnia exchange rate.

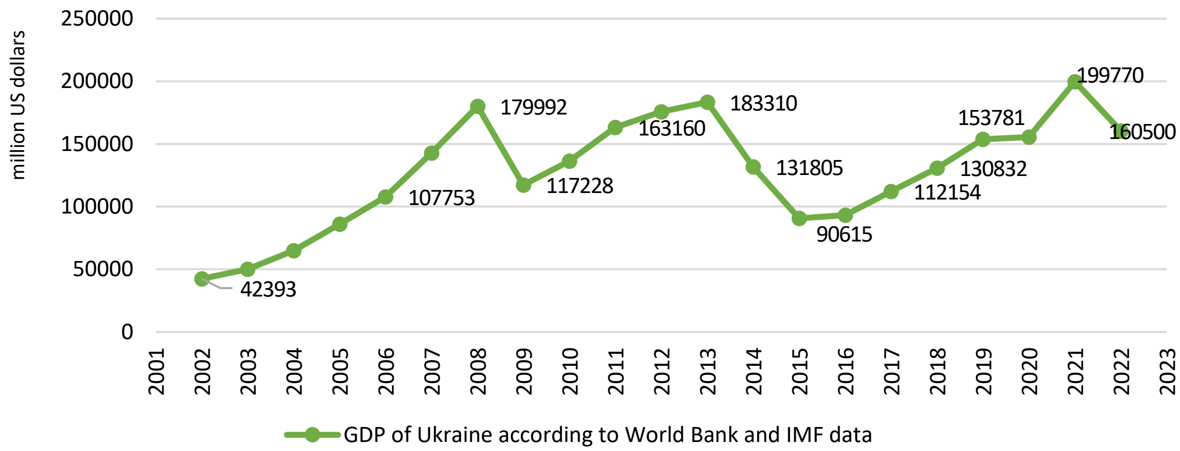

Fig. 5. Gross Domestic Product of Ukraine, 2001–2022 (according to estimates by the World Bank and the International Monetary Fund, million USD).

The first segment covers 2001–2008, that is, before the economic crisis. During these years, the indicator of the country's gross domestic product demonstrated stable positive dynamics, and the exchange rate of our currency at that time was also stable. The next segment is 2008–2013: the gross domestic product falls sharply against the background of the crisis, but later begins to recover and in 2013 reaches the pre-crisis level. At the same time, in 2008, the hryvnia depreciated sharply, but later stabilized, although already at higher values of the currency corridor.

Since the beginning of the war in 2014, the gross domestic product has fallen again, then started to grow again, slowing down in 2020 due to the Covid-pandemic, and reaching its peak value for the period under study in 2021. A full-scale Russian invasion provokes another economic, in particular, industrial decline. The hryvnia exchange rate is completely correlated with the volatility of the gross domestic product indicator, as described above: the hryvnia devalues with the start of the war, then stabilizes and another “falls” with the start of a full-scale invasion.

When considering the relationship between the exchange rate and the balance of payments, it is worth bearing in mind that it can affect the exchange rate differently in the short and medium term. The dynamics of these indicators over the last decade shows that the balance of payments becomes negative with each shock, but gradually recovers later. For example, according to the results of the first three quarters of 2023, this indicator exceeded its values in the pre-spring period. While the hryvnia stabilizes over time with each shock, but already at other, much higher limits of the currency corridor.

It should be said that the gradual increase of gold and foreign exchange reserves, after their critical fall in 2014, also made it possible to keep the exchange rate from a critical fall and, accordingly, the devaluation of the hryvnia. On the contrary, a closer relationship can be traced between the dynamics of the exchange rate and the country's public debt: the devaluation of the hryvnia occurs against the background of a parallel increase in the country's debt. For a more complete analysis of the relationship between the considered basic macroeconomic indicators and the hryvnia exchange rate, we will calculate the correlation coefficient (for the period 2010-2022), where the hryvnia exchange rate is the dependent variable, and the influencing factors are the country's gross domestic product, public debt, gold and foreign exchange reserves and balance of payments. Let's assume that the revealed regularity regarding the existence of a strong inverse relationship between the national currency and the gross domestic product is also valid for the Ukrainian currency market. The results are presented in Table 1.

Table 1. Correlation coefficient between the hryvnia exchange rate and influencing factors.

Factor	Correlation coefficient	Power of influence
1	*2*	*3*
Gross domestic product (nominal, UAH)	0,7846	Significant, direct connection
Gross Domestic Product (USD)	-0,2667	Weak feedback
Public debt	0,7891	Significant direct relationship
Gold and currency reserves	-0,1059	Inverse weak relationship
Balance of payments	0,2968	Direct weak link

As we can see from the results of the obtained calculations, the hryvnia exchange rate is directly but weakly dependent on the balance of payments. That is, the larger the positive balance, the higher the exchange rate. There is also a weak feedback link between the exchange rate and the country's gold and currency reserves – their increase "works" to strengthen the hryvnia, but not significantly. There is a clear strong connection with the public debt indicator – the higher the country's liabilities, the weaker our currency.

The situation with indicators for gross domestic product is interesting. The calculation of the coefficient for the data in the hryvnia equivalent revealed a significant direct connection – i.e., the increase in production volumes of the real sector "push" the exchange rate up. While this coefficient for the indicator of gross domestic product in the equivalent of US dollars indicates the presence of a weak but inverse relationship, that is, an increase in real production strengthens the hryvnia, which is completely logical and corresponds to the above-mentioned hypothesis about the inverse interdependence between the exchange rate and gross domestic product. So why does this effect "not work"?

We assume that the reason lies primarily in inflationary processes. The issue of inflation and its reduction is one of the key issues for the economy of Ukraine. During the crisis years, the consumer price index (CPI) reached extremely high values. If in 2013 the CPI was 100.5%, then its dynamics were as follows: 124.9% in 2014; 143.35% – in 2015; 112.4% in 2016; 113.7% in 2017; 109.8% in 2018; 104.1% in 2019; 105.0% in 2020; 110.0% in 2021; 126.6% in 2022

However, more informative are the data on the scale of inflationary processes based on the dynamics of changes in inflation indices in Ukraine based on the growing total (Fig. 6).

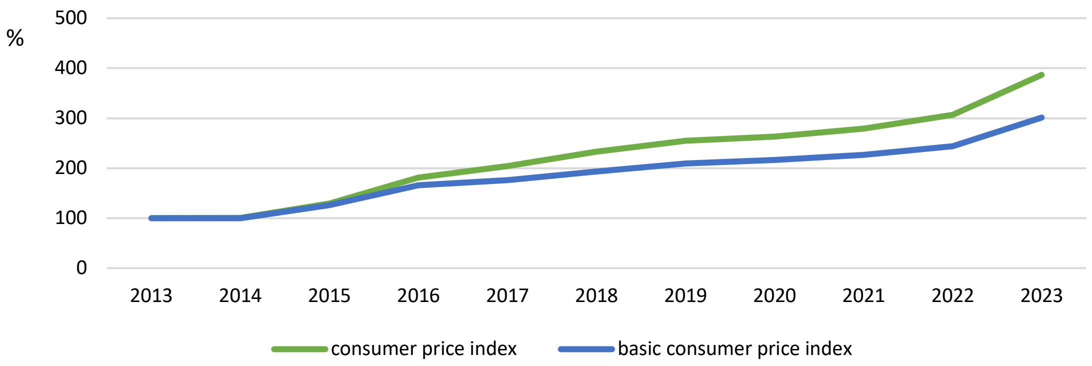

Fig. 6. Dynamics of consumer price indices in an increasing total, 2013–2023.

As you can see, over the last ten years, the value of the index of consumer prices increased by more than three times. We also calculated the correlation coefficient for this indicator and the exchange rate (Table 2).

Table 2. Correlation coefficient between the hryvnia exchange rate and influencing factors.

Factor	Correlation coefficient	Power of influence
1	*2*	*3*
Base index of consumer prices with an increasing sum	0,8475	Significant, direct connection

Thus, of all the factors considered by us, it is inflation that "presses" the national currency the most, "distorting" the situation with indicators of the financial and economic activity of the national economy, including the gross domestic product. At the same time, the government and the National Bank are constantly faced with a dilemma: on the one hand, it is necessary to contain inflation, on the other hand, without borrowing to ensure the functioning of the economy and the support of gold and foreign exchange reserves (which at the same time increases the external public debt), it is extremely difficult to maintain a more or less normal functioning of the economy, but these "infusions" exert inflationary pressure on the hryvnia. That is, while the Ministry of Finance is looking for sources of funding for the state budget, the National Bank is trying to reduce inflation, and these processes are inherently opposite.

It should be added that despite the presence of objective circumstances, the hryvnia is recognized as one of the most undervalued currencies in the world. According to the latest data from "The Economist" (which regularly conducts research on the "Bigmak Index"), as of July 2023, the hryvnia was undervalued by 49.5%, so the exchange rate should be 18.8 UAH/dollar [9]. Since 2004, when the hryvnia first entered this rating, the highest percentage of its undervaluation occurred in 2015 and amounted to 74.9%.

In the conditions of war, the formation of prices on the foreign exchange market is primarily influenced by factors of a non-price nature (blocking of transport routes and, as a result, lack of export revenue, news about the arrival/non-arrival of the next tranche of aid, the situation at the front). Therefore, the task of the regulator is to determine and maintain such an exchange rate regime that will have a stabilizing effect and at the same time allow timely response to economic changes.

It is obvious that fixing the exchange rate was the right and timely decision. However, the negative consequence of such a step was the intensification of the black market. The gap between the official and the shadow exchange rate increased and ultimately the National Bank was forced to react and raised the exchange rate to UAH 36.57/US dollar. After all, the volume of cash currency "on hand" of Ukrainians increased significantly by 9 billion US dollars only in the first 9 months of the full-scale invasion, which created additional pressure on the hryvnia.

The strengthening of the hryvnia was not helped by the increase in the discount rate. The attractiveness of hryvnia deposits really provided the banks with inflows of client funds, which at the end of 2022 were estimated at about 500 billion hryvnias. But this had little effect on the lending activity of banks - due to the military actions, the real sector's demand for lending fell to a minimum and did not have the expected effect. In parallel with this, loan rates also increased, which reduced the effectiveness of the policy to stimulate hryvnia deposits. The structural liquidity surplus of Ukrainian banks in the national currency also somewhat reduced the interest of the latter in attracting external public funds. With the weakening of the exchange rate, the National Bank lowers the discount rate [14-15].

Starting from August 2023, the regulator announced the transition to the regime of managed flexibility of the exchange rate of currencies, emphasizing at the same time the priority of maintaining a stable hryvnia exchange rate. In the first days, the foreign exchange market reacted to this with a surge in demand for foreign currency, due to which the regulator carried out interventions twice as large as in the same period - in October 2022. However, the National Bank expects a slight weakening of the hryvnia and forecasts in 2024-2025 gradual and managed devaluation – about UAH 42/US dollar by the end of 2024. In justifying this decision, the National Bank operates on the fact that the previous experience of maintaining a fixed exchange rate had more negative consequences for the currency market and the country's economy as a whole. Further fixation of the rate will lead to a more difficult exit from it. After all, the achieved stability of such macroeconomic parameters as the inflation rate, the discount rate and gold and foreign exchange reserves provide grounds for loosening currency restrictions.

The National Bank of Ukraine emphasizes the advantages of a floating exchange rate and notes that most countries follow this regime. However, the analysis carried out by the International Monetary Fund agency based on the results of 2022 shows that this is not quite the case. Two-thirds of the 190 studied countries resort to various types of fixed or controlled-floating course and one-third – to floating [1]. If we consider the countries of the European Union, where the euro is the main currency, not each one separately, but as one bloc, the number of countries with a floating exchange rate will be even smaller. Although the National Bank plans to gradually "release" the exchange rate, there are already lively discussions among experts and scientists about the expediency of such a step. After all, classical approaches to currency regulation in wartime do not work as clearly and effectively as in ordinary ones.

The difficulty of building a currency regulation system in the conditions of military aggression also lies in the fact that, firstly, the regulator is forced to constantly balance between two opposing goals. On the one hand, the need to ensure the uninterrupted implementation of foreign exchange transactions under trade agreements, which are vital for ensuring the country's defense capability, the import of medical equipment and other essential goods and services that cannot be produced/provided in Ukraine due to military operations. On the other hand, it is necessary to limit the outflow of capital from the country by imposing appropriate restrictions.

Secondly, due to military actions, Ukraine not only does not abandon its obligations within the framework of the European integration course, but also works, as far as possible, to fulfill all the requirements set to achieve this goal, including in the financial sphere. This increases the load on the regulator.

Determining the optimal course, especially in wartime, is a very difficult task. Therefore, it is important to understand the advantages and risks of using a fixed or floating exchange rate regime by the National Bank of Ukraine in war conditions [7].

The main advantages of using the floating mode are the following:

- ✓ the need for significant gold and currency reserves is less critical than with a fixed exchange rate;
- ✓ ensures a higher level of adaptation of the currency system to internal and external shocks;
- ✓ more adequately reflects the real state of the economy;
- ✓ due to the fact that the value of the hryvnia is set based on the ratio of supply and demand, this narrows the space for speculation on the market;
- ✓ free pricing on the foreign exchange market provides more opportunities for independent monetary policy;
- ✓ contributes to the reduction of excessive imports and stimulates exports;

✓ is a prerequisite for returning to the policy of inflation targeting.

The main risks of using the floating regime are as follows:

➢ in the conditions of war, negative expectations of currency and exchange rate dynamics grow significantly;

➢ the demand for currency assets increases sharply, which increases the risk of devaluation (regardless of the fundamental reasons);

➢ a significant, uncontrolled drop in the exchange rate significantly reduces the solvency of the population;

➢ high interest rates, which are actively used with a floating exchange rate, reduce the credit activity of banks, and provoke the withdrawal of capital from the real sector of the national economy;

➢ the national currency market is not sufficiently developed, therefore there is a risk that it will not fully reflect the real value of the hryvnia and the speculation factor will still be present, that is, possible "distortions" of the market;

➢ the positive aspects of the introduction of a flexible exchange rate may decrease due to the weakness of the transmission mechanism of monetary policy;

➢ an insufficiently developed system of insurance (forward, futures contracts) of currency risks in conditions of free exchange rate formation creates additional risks.

The advantages of a fixed exchange rate include the following:

o is an obvious nominal reference point for the financial and monetary system, which reduces negative expectations of currency and exchange rate dynamics;

o ensures a higher level of predictability and predictability of business processes and, as a result, activation of foreign trade and increased interest of foreign investors.

o helps preserve the purchasing power of the population.

Another valid argument of experts – "supporters" of a fixed or managed-floating exchange rate is that one of the conditions for Ukraine's accession to the European Union is exchange rate stability so that a new member of the union does not destabilize the European currency market [6]. The candidate country must maintain the exchange rate within +15%/-15% relative to the main exchange rate to the euro for at least two years before (before accession) [1]. This exchange rate mechanism - The Exchange Rate Mechanism, covers several aspects.

1. In order for the exchange rate to be kept within the specified range, the applicant country for joining the eurozone must carry out appropriate interventions.

2. The candidate country can also decide on a narrower range of fluctuations, if this does not significantly affect the official range of fluctuations.

3. All decisions regarding the functioning of the ERM mechanism, including interventions, are coordinated with the European Central Bank.

In essence, this approach is based on the concept of a fixed exchange rate, albeit in a more flexible form.

However, there are also risks of using this regime:

❖ vulnerable to speculation on financial markets in general;

❖ there is a risk of a growing gap between the nominal and real value of the currency, which will activate the gray market and "pull away" a significant resource from the official channels of circulation;

❖ if the deviation of the established exchange rate is very significant from the real one, it can lead to a significant jump in inflation.

As we can see, the observance of both fixed and floating exchange rates requires regulatory influence from the government and the National Bank, and the set of methods and tools for such regulation must be determined by the specific macroeconomic parameters that have formed.

Analyzing the advantages and disadvantages of exchange rate and fixed exchange rate regimes, the following can be clearly stated: the fixed regime is more acceptable in the short term. Its application allows you to quickly stabilize the currency market in case of critical deviations, protect the savings of the population and support solvency, and provide a guideline for business. Also, the fixed exchange rate is a more acceptable tool for developing economies and can be implemented in its softer form, depending on the economic situation in the particular country under consideration.

It is advisable to use a floating exchange rate in the long term, as it allows you to smooth out constant market fluctuations and quickly adjust to them, eliminate "gaps" between the real and nominal (official) exchange rates. A free-floating exchange rate is a tool of strong economies, which themselves determine the vector of development of the international currency market.

Giving our own assessment of the approach of the National Bank of Ukraine to the regulation of the exchange rate in the conditions of martial law, we note that the Strategy proposed by the regulator in terms of exchange rate flexibility is generally adequate for the current conditions: the foreign exchange market objectively needs a more flexible approach, but it is not time to "let it go". Therefore, the government's entry into the foreign currency market in order to smooth out deviations, but not to fix the price, is a reasonable decision. The more difficult task is to ease or tighten the flexibility of the exchange rate exactly when it suits market conditions. Indicators prescribed in the Strategy for the easing of currency restrictions, the transition to greater exchange rate flexibility, and the return to inflation targeting may well serve as a benchmark in this matter. We propose to analyze them in several steps (Fig. 7).

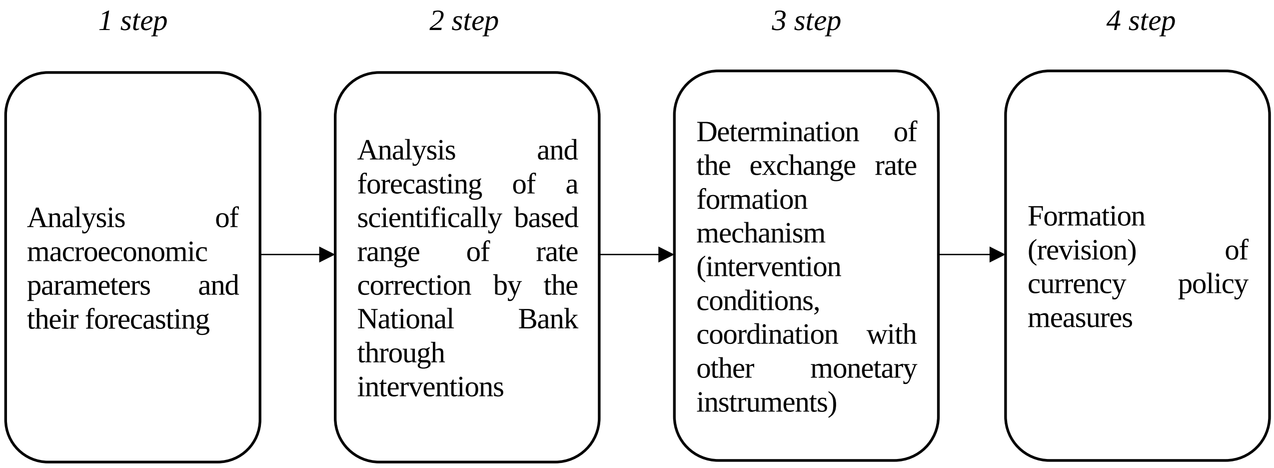

Fig. 7. Algorithm for Making a Decision on Softening or Strengthening the Flexibility of the Exchange Rate.

But it is worth considering that the implemented measures are subject to distortion due to the war factor. Secondly, it is important to strengthen the institutional capacity of the National Bank of Ukraine, since the exchange rate should be considered primarily as a macroeconomic factor, and not as a way of balancing the state budget.

In general, most experts note that, despite the state of war, the currency system of Ukraine has shown itself to be more stable compared to the beginning of the military aggression in 2014. Therefore, the currency market has a certain margin of safety thanks to the previously implemented reforms, and further reform is an important condition for increasing its stability.

4. CONCLUSION

1. The stability of the currency system in the conditions of martial law was ensured both by measures of the National Bank of Ukraine that were adequate to the situation, and by those reforms that, in part, were implemented during the last decade. Further development of the domestic currency system should be focused on the formation of a more autonomous, transparent system of rules according to the leading international reporting and accounting standards.

2. Its optimization should include measures to support the stability of the financial system as a whole and, in fact, currency regulation. The first block of tasks involves: maintaining inflation rates and slowing down the growth of the state debt; restoration of the banking system; restoration of the

domestic base of investors; further legal harmonization with the European Union; restoration of the capital market; development of the hryvnia money market; development of the financial sector according to the principle of financial inclusion; gradual deregulation of the financial market. Optimizing currency regulation measures should include: ensuring currency flows based on analysis of not the form of transactions, but their substance; prevention and protection against currency risks; optimization of liquidity management in foreign currency; adaptation of the national legislative framework to the requirements of European legislation in terms of regulation of the crypto market.

3. Exchange rate regulation should include making a decision on softening/increasing the flexibility of the exchange rate, which includes four steps: analysis of macroeconomic parameters and their forecasting; analysis and forecasting of a scientifically based range of rate correction by the National Bank through interventions; determination of the exchange rate formation mechanism (intervention conditions, coordination with other monetary instruments); formation (revision) of currency policy measures.

5. CONFLICT OF INTEREST

The authors confirm that they are the authors of this work and approve it for publication. The authors also certify that the obtained data and research were conducted in compliance with the requirements of moral and ethical principles based on medical and pharmaceutical law, respectively, and in the absence of any relationships that could be interpreted as conflict and/or potential conflict of interest.

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