

УДК 336.74+339.743  
JEL E50; F31

## DYNAMICS OF UNOFFICIAL DOLLARIZATION IN UKRAINE, 1997–2021

**Bohdan Lapchuk**

*Ivan Franko National University of Lviv,  
19 Sichovykh Striltsiv Str., Lviv, 79008  
e-mail: bohdan.lapchuk@lnu.edu.ua, ORCID: 0000-0003-0210-2804*

**Abstract.** *The article examines unofficial dollarization trends of the Ukrainian economy over the past 25 years. With the help of various estimation methods, in particular, the dollarization of deposits and loans was analyzed, using the official statistic data of the National Bank of Ukraine. Using the methods of the International Monetary Fund it was determined when the Ukrainian economy was highly dollarized. The main reasons of high unofficial dollarization in Ukraine are the financial and political crises in 1998-1999, 2008-2009, 2014-2016. The operations of the population with foreign currencies and the structure of deposits of the population of Ukraine were also analyzed in the article. Among the reasons of decrease of the unofficial dollarization level in Ukraine there are a comparative stability of prices and the exchange rate of hryvnia, lower interest rates for deposits in foreign currencies. Conclusions are made about the dependence of dollarization of the economy on economic and political crises in Ukraine, and about its gradual decline in recent times. It is emphasized in the article that further research of the dollarization hysteresis effect and the natural level of dollarization in Ukraine is very important.*

**Keywords:** *dollarization, unofficial dollarization, deposit dollarization, credit dollarization, dollarization of broad money, natural (benchmark) level of dollarization.*

**Formulation of the problem.** Dollarization is one of the most problematic phenomena of the economies in a crisis and means a widespread use of one or more foreign currencies in circulation along with the national one. In the age of globalization, individuals and legal entities in a country with an open economy may hold some savings in foreign currencies, but in countries with permanent economic crises, this phenomenon can become widespread and make it difficult to conduct effective monetary and exchange rate policies.

High unofficial dollarization is also typical for Ukraine's economy, so the study of its trends is always actual.

**Analysis of recent studies and publications.** The problem of dollarization of the economy has always attracted a considerable attention of economists. In particular, recent works include a study of financial dollarization in Latin America by Eduardo Levy Yeyati [1], an analysis of the impact of remittances on the natural level of dollarization in Caucasus and Central Asia by Rocio Gondo, Altynai Aidarova, and Manmohan Singh [2], a monograph by

Viktor Koziuk [3], a study of dollarization of the financial market in Ukraine by Ihor Krupka [4], an analysis of the natural level of dollarization of the Ukrainian economy by Kostiantyn Khvedchuk, Valentina Sinichenko and Barry Topf [5], a study of dedollarization in Ukraine by Mark Shkreb and Kostiantyn Khvedchuk [6] and many other works.

**Problem statement.** A comprehensive analysis of current trends of the unofficial dollarization in Ukraine is always an urgent task, as it allows to study the effectiveness of the monetary and the exchange rate policies in particular, and the economic policy in general. The purpose of the article is to analyze a dynamic of the unofficial dollarization of Ukraine's economy from 1997 to the present. To do this, it is necessary to estimate dollarization indicators using various methods and statistics of the National Bank of Ukraine, as well as to analyze main trends of the household operations with foreign currencies.

**Presentation of the main research material.** In the economic theory the phenomenon of dollarization has two main types – 1. unofficial dollarization, when foreign currency is used de facto in circulation, without official status, and 2. official (or full) dollarization, when foreign currency receives an official status and is used not only de facto, but also de jure in circulation, and the national currency may have a secondary status or even be cancelled.

The official dollarization is a type of the exchange rate regime and is used mainly in some small countries or dependent territories. High unofficial dollarization is common for countries with economic problems, indicates a public distrust in the national currency and is a way for the households and business to protect themselves against a devaluation.

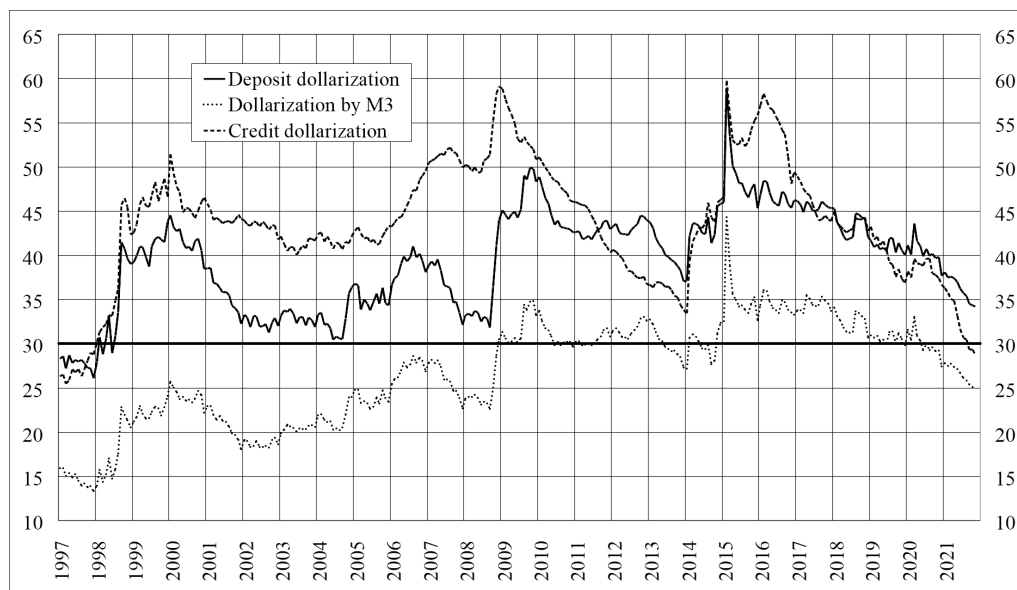
According to many authors, there is a certain level of unofficial dollarization (so-called natural (or benchmark) level of dollarization) in the open economy, because individuals and business always keep some savings in foreign currencies, although the purpose may be different [5]. For example, foreign economic activity entities are interested in certain amounts of foreign currencies deposits for future contracts or as an insurance from negative changes of the exchange rates. Individuals can keep some of their savings in foreign currencies for prudence or future travels/consumption abroad.

On the other hand, a higher than natural level of unofficial dollarization is a sign of economic problems in the country and this complicates its monetary policy significantly.

There are various methods of estimating the level of unofficial dollarization, most of them are calculating a ratio of foreign currency deposits/loans to other indicators, including total deposits/loans and a monetary aggregate M3 («broad money»).

The most common method of estimating the level of unofficial dollarization is to calculate a ratio of foreign currency deposits to the total amount of deposits (dollarization of deposits or deposit dollarization) and a ratio of foreign currency loans to the total amount of loans (dollarization of loans or credit dollarization). The International Monetary Fund recommends to estimate the level of unofficial dollarization as a ratio of foreign currency deposits to «broad money»; if this ratio exceeds 30%, then such an economy can be considered to be highly dollarized.

The calculation of these indicators (Fig. 1) showed a generally high level of unofficial dollarization in Ukraine during the selected observation period.



**Fig. 1. Deposit dollarization, credit dollarization and dollarization by M3 in Ukraine during 1997-2021 (%)**

Source: calculated by the author according to statistical data of the NBU [7]

Peak values of these indicators were observed during monetary, financial and political crises, in particular, for the deposit dollarization – 44.59% in January 2000 (due to the currency and financial crisis of 1998–1999), 41.06% in August 2006 (due to the political crisis with the parliamentary coalition), 49.95% in October 2009 (due to the currency and financial crisis of 2008–2009) and 58.83% (maximum value of the selected observation period) in February 2015. The peak values of the credit dollarization were 51.45% in January 2000, 59.10% in December 2008, 59.81% (maximum) in February 2015 and 58.29% in February 2016. Recently, there has been a gradual decline of the deposit and credit dollarization (as of November 2021 – 34.20% and 29.73%).

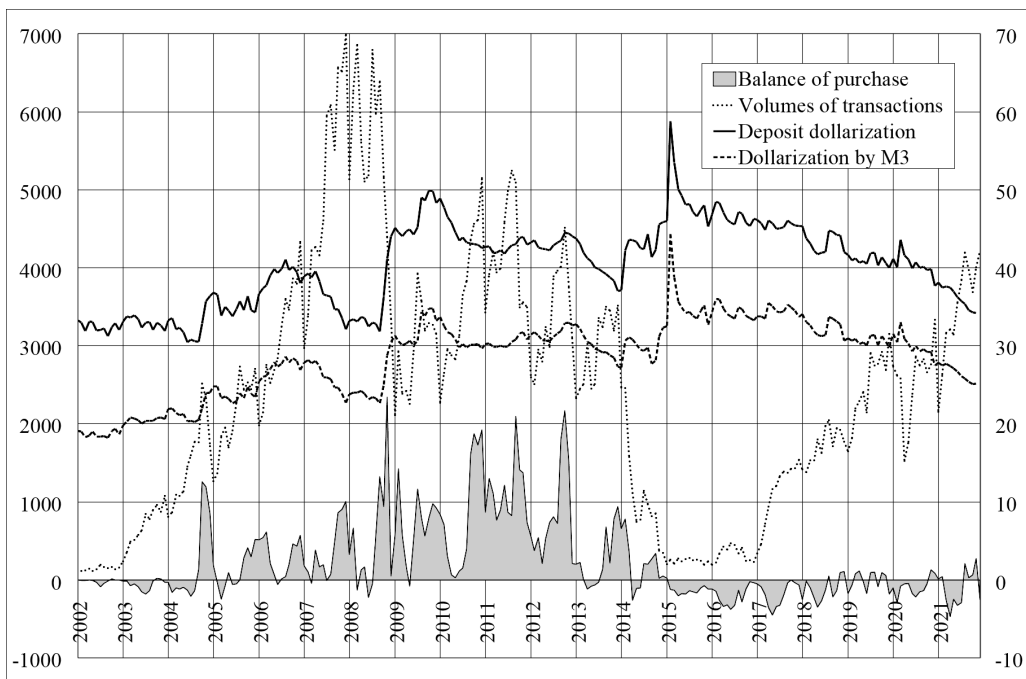
According to the IMF's methodology, Ukraine's economy was highly dollarized from December 2008 until May 2020 (except for some months in 2013–2014). The maximum value of this indicator was 44.31% in February 2015, and since June 2020 it has been gradually decreasing (to 25.16% in November 2021), which is below the threshold value. Thus, we can conclude that recently the Ukrainian economy is not highly dollarized any more according to the IMF's methodology.

However, the calculation of the level of unofficial dollarization using only the bank deposits does not take into account a significant volume of foreign currencies in cash outside banks. The above indicators are underestimated and give only an idea of the dollarization trends in the country.

For a comprehensive estimation of non-bank dollarization, it is advisable to analyze the trends of household operations with foreign currencies (Fig. 2).

The analysis of the volumes of transactions with foreign currencies of the population showed a generally high level and a sharp decline of them during the monetary, financial and political crises (in particular, in 2009 and 2014-2016), which can be explained by negative expectations. The maximum value of this indicator was 6.9 billion US dollars in December 2007, the minimum – 193.7 million US dollars in January 2016. Since 2017, the volume of transactions with foreign currencies of the households has been gradually growing and reached more than 4.2 billion US dollars as of December 2021.

However, the balance of foreign currencies purchases by the population from banks has decreased significantly over the past 7 years compared to previous periods, and the population of Ukraine now sells foreign currencies to banks more often than buys.

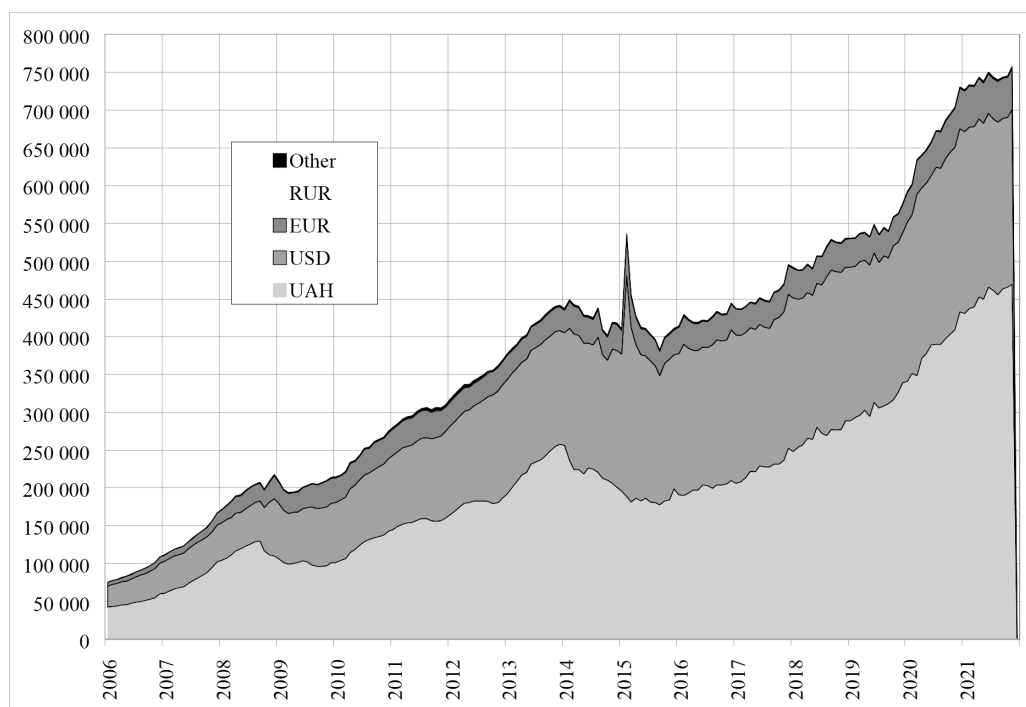


**Fig. 2. Volumes of transactions and balance of purchase of foreign currencies by households (million USD; left scale), dollarization of deposits (%; right scale) in Ukraine during 2002-2021**

Source: calculated by the author according to statistical data of the NBU [7]

Recent trends in the structure of bank deposits of the households are also positive (Fig. 3). There can be seen a clear reduction of the share of deposits in the national currency during the monetary, financial and political crises in Ukraine – from October 2008 to October 2009, as well as from January 2014 to September 2015. Since October 2015, the volumes and share of hryvnia deposits have been growing steadily comparing to relatively stable volumes of deposits in foreign currencies. Thus, in February 2015 the share of hryvnia deposits was

only 35% of the total amount of the deposits, in November 2021 it increased to 62%. In February 2015, the share of deposits in US dollars was 55%, in euros – 9%, in November 2021 – 30% and 7%. This situation contributes to a gradual decline of the level of unofficial dollarization in Ukraine, estimated according to banking statistics.



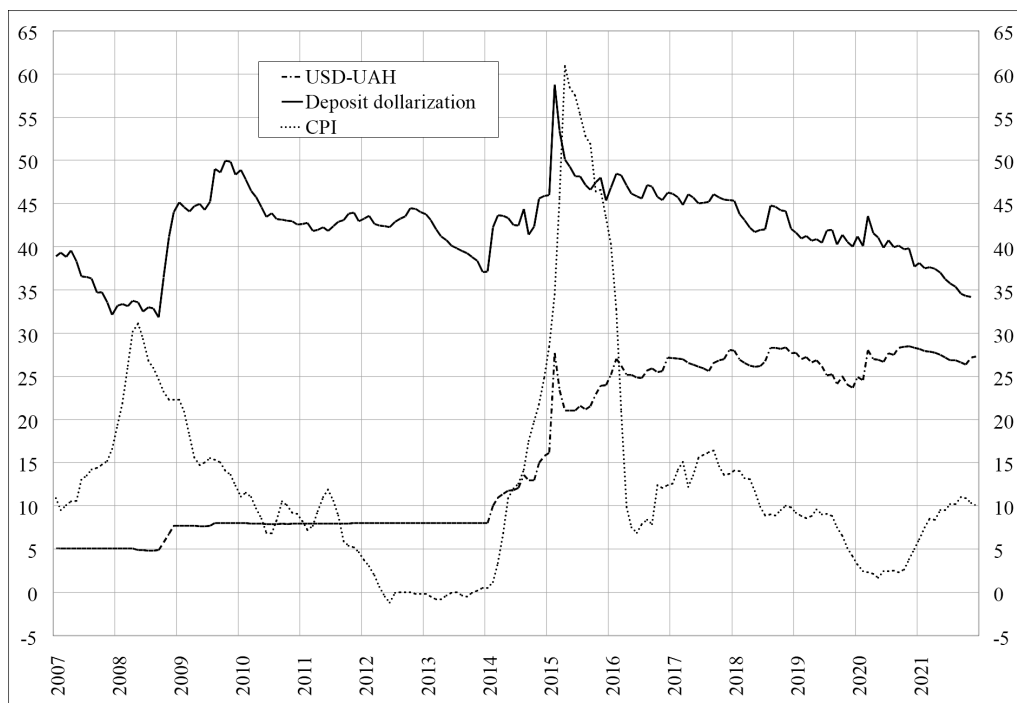
**Fig. 3. Deposits of the households in Ukraine during 2006-2021 (at the end of the period, UAH million)**

Source: calculated by the author according to statistical data of the NBU [7]

The main reasons for a gradual reduction of dollarization in Ukraine (but excluding the shadow sector of the economy) are lower inflation and more optimistic inflation expectations, stabilization of the hryvnia (Fig. 4), absence of sharp economic and political shocks in the country. If such political and economic trends remain, the unofficial dollarization will decline to its natural level. According to a study by Kostiantyn Khvedchuk, Valentyna Sinichenko and Barry Topf, the natural level of dollarization of Ukraine's economy is about 20% [3].

In addition, one of the reasons for the decline of the share of foreign currency deposits in recent years is a significant reduction of interest rates on these deposits (Fig. 5). Thus, the interest rate on such deposits decreased to the minimum value of the entire observation period (0.6% in September 2021). For comparison – the maximum interest rate on foreign currency deposits was observed in March 2009 (11.6%) during the monetary and financial crisis in Ukraine and the world. Due to lower interest rates, some individuals and entities refuse to

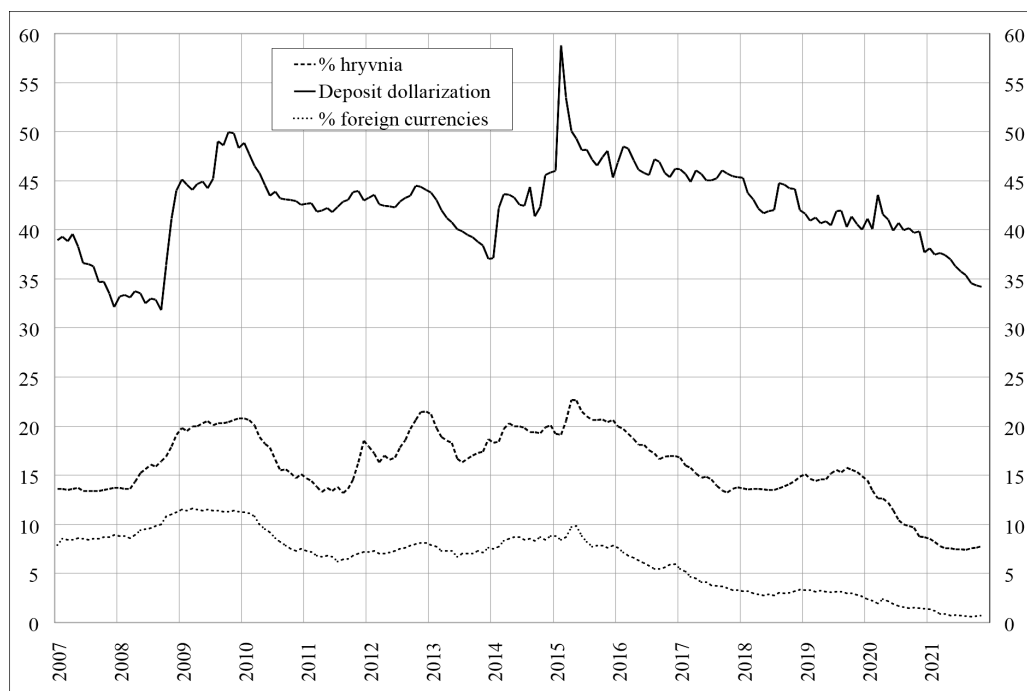
keep their savings in foreign currencies in the banking system (because of the traditional distrust in banks). As can be seen from Fig. 3 and taking into account the minimum interest rates, we can conclude about the stabilization of dollar deposits over the past two years, which may be consistent with the theory of the natural level of dollarization.



**Fig. 4. Deposit dollarization and consumer price index (%; left scale), exchange rate USD-UAH (UAH; right scale) in Ukraine during 2007-2021**

Source: calculated by the author according to statistical data of the NBU [7]

However, as we can see from the graphs, unofficial dollarization is decreasing much more slowly than increasing, due to the so-called dollarization hysteresis effect, which is typical for many countries [8]. This effect means a long-term maintenance of a high level of dollarization, even after the disappearance of the reasons that led to its growth, as well as the overall macroeconomic stability in the country. Obviously, this effect is also present in Ukraine, but it requires a more in-depth study of the factors influencing the level of dollarization of the economy.



**Fig. 5. Interest rates on time deposits of the households (weighted average interest rates, %) and deposit dollarization (%) in Ukraine during 2007-2021**

Source: calculated by the author according to statistical data of the NBU [7]

**Conclusions and prospects for further research.** Thus, the estimation of the level of unofficial dollarization in Ukraine using various methods has shown its high level for a long time. The Ukrainian economy was highly dollarized from December 2008 to May 2020, and from June 2020 the level of dollarization is gradually decreasing.

Based on the traditionally high level of dollarization in Ukraine during the whole observation period and taking into account the natural level of dollarization, we can agree with the conclusions of other authors [5], that the target level of dollarization in Ukraine is 20-30% (short term target indicator) and 10–20% (long-term target indicator).

Among the reasons of improving the situation are the stabilization of the exchange rate of hryvnia, lower interest rates, recent political and economic stability. However, experience shows that the situation can change dramatically in case of crises and growing negative expectations of the population and business.

In general, to reduce the level of unofficial dollarization, the state needs to provide:

- macroeconomic stability (low inflation, stability of the exchange rates, etc.);
- confidence in the government's economic policy;
- formation of optimistic expectations of the population and business;
- political stability (fair elections, lack of confrontation between branches of state power, coordinated work of the state apparatus);



- successful implementation of structural reforms;
- effective measures against corruption and the shadow economy.

In order to further investigate the dollarization of the Ukrainian economy, it is necessary to analyze more deeply the factors influencing the dollarization, the natural level of dollarization and the effect of its hysteresis in Ukraine, which will help to predict future trends of this phenomenon more precisely.

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## ДИНАМІКА НЕОФІЦІЙНОЇ ДОЛАРИЗАЦІЇ В УКРАЇНІ У 1997–2021 РОКАХ

Богдан Лапчук

*Львівський національний університет імені Івана Франка,  
79008, м. Львів, вул. Січових Стрільців, 19  
e-mail: bohdan.lapchuk@lnu.edu.ua, ORCID: 0000-0003-0210-2804*

**Анотація.** Досліджено тенденції неофіційної доларизації української економіки за останні 25 років. За допомогою різних методик обчислення, зокрема, проаналізовано доларизацію депозитів і кредитів, а також за методикою Міжнародного валютного фонду визначено, що економіка України була високодоларизованою з грудня 2008 року аж до травня 2020 року (за винятком окремих місяців у 2013–2014 роках). Максимальне значення цього показника становило 44,31% у лютому 2015 року, а з червня 2020 року спостерігалось його поступове зниження (до 25,16% у листопаді 2021 року), що є нижчим від порогового значення. Аналіз обсягів операцій населення з іноземними валютами загалом виявив традиційно високий їхній рівень та різке зниження під час валютно-фінансових та політичних криз (зокрема, у 2009 та 2014–2016 роках), що можна пояснити негативними очікуваннями населення. Останні тенденції структури банківських депозитів домогосподарств щодо валют також позитивні – чітко простежується скорочення частки депозитів у національній валюті під час валютно-фінансових та політичних криз в Україні. Основні причинами поступового скорочення доларизації в Україні – зниження інфляції та інфляційних очікувань, стабілізація курсу гривні, відсутність різких економічних та політичних потрясінь у країні. Якщо такі політико-економічні тенденції зберігатимуться, то неофіційна доларизація знижуватиметься до її природного рівня. Крім того, однією з причин скорочення частки депозитів у іноземних валютах протягом останнього часу є значне зниження процентних ставок за депозитами в іноземних валютах. Аналіз структури депозитів домогосподарств дає підстави зробити висновки про стабілізацію обсягів доларових депозитів протягом останніх двох років, що може відповідати теорії природного рівня доларизації. Щоб ґрунтовніше дослідити доларизованість української економіки, доцільний подальший аналіз природного рівня доларизації та ефекту її гістерезису в Україні, що дасть змогу краще прогнозувати майбутні тенденції цього явища.

**Ключові слова:** доларизація, неофіційна доларизація, доларизація за депозитами, доларизація за кредитами, доларизація за МЗ, природний рівень доларизації.

*Стаття надійшла до редакції 26.11.2021*

*Прийнята до друку 29.12.2021*