Maja Dimić[1]
Jelena Cvijović[2]
Milica Ćosić[3]

JEL: F31, E52
DOI: 10.5937/industrija52-54320
UDC: 336.76(497.11:498:439)
616.98:578.834]:338.124.4
Original Scientific Paper

Foreign exchange market in the Republic of Serbia: a comparative analysis with selected countries

Article history:
Received: 23 September 2024
Sent for revision: 5 November 2024
Received in revised form: 15 November 2024
Accepted: 20 November 2024
Available online: 20 December 2024

Abstract: *The primary purpose of the foreign exchange market is to facilitate and enhance international trade and capital movement, while also ensuring the smooth execution of payment transactions and maintaining liquidity within the economy. A well-functioning foreign exchange market contributes to the interconnectedness of national financial markets and serves as a crucial link between national economies and the international environment. This paper analyzes the foreign exchange markets of Serbia, Romania, and Hungary within the context of the global economic crisis and the COVID-19 pandemic. The objective of the research is to compare the effects of these crises on exchange rates and the stability of financial markets in the countries. The authors illustrate the mechanisms through which global economic shocks have impacted foreign exchange markets, as well as the responses of governments and central banks to the challenges posed by these crises. Furthermore, this paper contributes to the understanding of the dynamics of foreign exchange markets during times of crisis and provides insights into strategies that have*

[1] University Union Nikola Tesla, Faculty for business studies and law, maja.dimic@fpsp.edu.rs
[2] Economics Institute Belgrade
[3] PhD candidate, Accounting and consulting services agency

proven successful in preserving economic stability, thereby opening avenues for further research in this domain.

***Keywords**: exchange rate, foreign exchange market, economic crisis, COVID-19*

Devizno tržište u Republici Srbiji: uporedna analiza sa odabranim zemljama

***Apstrakt**: Osnovna svrha deviznog tržišta je da omogući i olakša međunarodnu trgovinu i kretanje kapitala, kao i da obezbedi nesmetano obavljanje platnog prometa i održavanje likvidnosti privrede. Funkcionalno devizno tržište doprinosi povezanosti nacionalnih finansijskih tržišta i predstavlja ključnu vezu između nacionalnih ekonomija i međunarodnog okruženja. Ovaj rad analizira devizna tržišta Srbije, Rumunije i Mađarske u kontekstu svetske ekonomske krize i pandemije COVID-19. Cilj istraživanja je da se uporede efekti ovih kriza na devizne kurseve i stabilnost finansijskih tržišta u navedenim zemljama. Autori u radu prikazuju na koji način su globalni ekonomski šokovi uticali na devizna tržišta, kao i reakcije vlada i centralnih banaka na izazove koje su krize postavile. Dodatno, rad doprinosi razumevanju dinamike deviznih tržišta u uslovima krize i pruža uvid u strategije koje su se pokazale uspešnim u očuvanju ekonomske stabilnosti, čime se otvara prostor za dalja istraživanja u ovoj oblasti.*

***Ključne reči**: devizni kurs, devizno tržište, ekonomska kriza, Kovid-19*

1. Introduction

The exchange rate is a key indicator of economic stability and competitiveness, and its fluctuations during global crises, including the 2008 financial crisis and the COVID-19 pandemic, can significantly impact the economies of countries in the region, including Serbia. The choice of exchange rate regime is influenced by the level of economic development, historical and cultural heritage, degree of openness, level of monetary independence, and main trading partners. During the global financial crisis, exchange rates came under pressure due to a decline in capital flows and increased market volatility, leading to the depreciation of local currencies in many countries, including Serbia (Pažun, 2014; Martin, 2018). In this context, central banks intervened to stabilize exchange rates and maintain financial stability (Martin, 2018; Kovačević, 2021).

The topic of this paper is relevant, considering that the efficiency of a national economy is best reflected in the foreign exchange market, through the value of the domestic currency, i.e., the exchange rate. The primary purpose of the foreign exchange market is to enable and facilitate international trade and capital movement, as well as to ensure smooth payment operations and maintain the optimal liquidity level of the economy. The interconnectedness of national financial markets contributes to the proper functioning of the foreign exchange market, which serves as the primary link between a national economy and the international environment.

The objective of this paper is to provide a comparative overview of exchange rate movements in Serbia, Romania, and Hungary during two observed periods: the economic crisis and the COVID-19 pandemic. In analyzing the impact of the global financial crisis and the COVID-19 pandemic on the foreign exchange markets of the observed countries, the authors emphasize the need to understand how both events shaped global economic flows and exchange rates:

- During the 2008 financial crisis, foreign exchange markets experienced significant turbulence, with many currencies, including the euro, undergoing sharp declines in value. This crisis was triggered by excessive borrowing and poor-quality mortgage loans, leading to a loss of investor confidence and increased market volatility (Spatt, 2020; Tang & Aruga, 2021). During this period, central banks intervened to stabilize exchange rates, including interest rate cuts and the implementation of quantitative easing (Goldstein, Koijen & Mueller, 2021).
- On the other hand, the COVID-19 pandemic, which began in late 2019, also had a significant impact on foreign exchange markets. In the early stages of the pandemic, global uncertainty led to a sudden increase in exchange rate volatility, with many currencies facing substantial fluctuations. Research has shown that exchange rates largely responded to the number of COVID-19 infections and deaths, highlighting the connection between the health crisis and economic indicators (Jamal & Bhat, 2022; Hung & Vo, 2023). In this context, investors retreated from riskier assets, leading to the strengthening of the US dollar as a safe haven (Fasanya, Oyewole, Adekoya & Mensah, 2020).

Comparing these two period, it can be observed that both had similar effects on the foreign exchange markets of the analyzed countries, but the mechanisms and causes differed. While the financial crisis resulted from structural weaknesses in the financial system, the COVID-19 pandemic represented an external shock that impacted the global economy. In the case of COVID-19, central banks also implemented aggressive monetary policy measures but faced additional challenges, such as border closures and supply chain disruptions, which further complicated the situation in foreign exchange markets (Handoyo, 2020).

2. Materials and methods

The research timeframe covers the period from 2008 to 2021, focusing on two key intervals (2008–2010 and 2019–2021). The selection of these time intervals is based on several key reasons:

- Firstly, the beginning of the first analyzed period is characterized by the emergence and spread of the global economic crisis, which originated in the United States and had significant consequences for European markets. The start of the second period is marked by the COVID-19 pandemic, which had negative consequences not only in health but also in social and economic terms.
- Secondly, under these business conditions, it is important to explore how the foreign exchange market coped with the negative consequences of the crisis and how exchange rates fluctuated under conditions of uncertainty and high risk.
- Thirdly, the authors address the identification of similarities and differences between these periods in the context of the negative effects caused by the two crises. In particular, the question arises whether the lessons learned from the global financial crisis could have been applied during the COVID-19 pandemic and in its aftermath.
- The analyzed period allows for a comprehensive assessment of changes in exchange rate movements, as well as an evaluation of the implementation of appropriate management policies on the foreign exchange market by relevant institutions.

Regarding the territorial scope of the research, the authors focus on analyzing the foreign exchange markets in Serbia, Romania, and Hungary. These countries, of which only Serbia is not a member of the European Union, still use their national currencies, allowing for a detailed examination of exchange rate dynamics in the context of different monetary policies and economic conditions.

The authors rely on the following research phases:

- *Defining the subject of the research*, highlighting the importance of the foreign exchange market in the analyzed countries during the specified time intervals, and making a comparison of exchange rate movements relative to the euro and the US dollar. Additionally, the authors point out the similarities and differences these two crises left on the foreign exchange market in the analyzed countries during the mentioned periods.

- *During the data collection phase*, data were obtained from the websites of relevant institutions responsible for the control and supervision of the foreign exchange market and the management of exchange rates in the selected countries, as well as other available sources and publications from institutions overseeing the mentioned sector. Furthermore, other scientific research papers analyzing the subject matter of this study were also consulted. The following table presents the most frequently used and cited sources in the research.

Table 1. Data sources

Country	Industry	Documents
Serbia	National Bank of Serbia (NBS)	Annual Report on Monetary Policy Financial Market – Currency Hedging Interbank Foreign Exchange Market Official Daily Exchange Rates
Romania	National Bank of Rumania (NBR)	Inflation report Financial stability report Annual report Official Daily Exchange Rates
Hungary	Magyar Nemzeti Bank (MNB)	Financial stability report Inflation report Official Daily Exchange Rates

Source: Author's presentation based on available literature

- *The Data Processing phase* involved analyzing the collected data using various mathematical and statistical methods and techniques within Microsoft Excel.
- *The Analysis of Obtained Data* phase provides a detailed examination of the results obtained in the previous research phase. This includes the elaboration and qualitative commentary of the results presented in tabular and graphical formats.
- In the *Presentation of Concluding Remarks phase*, the conclusions drawn from the research are presented, and new topics for further research are proposed.

3. Results and discussion

3.1. The Impact of the economic crisis and the COVID-19 pandemic on the foreign exchange market

The crisis caused by the COVID-19 virus, recognized globally as the “Great Lockdown,” is often compared to the Great Depression, which began in 1929 with the crash of the U.S. stock market, as well as the Great Recession triggered by the subprime mortgage crisis in the United States in 2008–2009. The previous global recession of 2008 reflected a financial crisis that spilled over from economically developed countries into the Western Balkans through four channels: the banking sector, foreign direct investment, foreign trade, and the labor market (Paunović, Dimić & Arsenijević, 2019). On the other hand, the coronavirus created a massive economic problem for the global health, economic, and social systems. The Great Recession, and especially COVID-19, led to a re-examination of the fundamental tenets of neoliberalism as the guiding direction of the Western bloc's economy. The outbreak of the pandemic shook the foundations upon which the neoliberal doctrine rested (individual freedoms and the free market), and state interventions returned prominently to the forefront.

For the academic economic community, the consequences of the COVID-19 pandemic are a déjà vu scenario from 2008. Analyzing the key elements of the Great Recession and the COVID-19 pandemic, the following questions are justifiably raised:

- Is it possible to compare these two crises?
- What are the similarities and differences in their impact on the economy?
- Can lessons and conclusions be drawn from the previous crisis that would help the relevant institutions in finding responses and mitigating the negative effects?

Authors Trošić-Jelisavac and Jović-Lazić (2015) argue that the pace of recovery among various countries and their respective economies unfolds at different rates, influenced by numerous factors. The most critical determinants include the economic strength and development of each nation, the duration of the COVID-19 pandemic, the implementation period of epidemiological measures, and the proportion of GDP contributed by the most vulnerable economic sectors, among others. Consequently, implementing measures aimed at mitigating and alleviating the newly arisen consequences was imperative. It was essential for policymakers to carefully evaluate the effectiveness and socio-economic impacts of these mitigation measures, aligning their decisions with epidemiological evidence on virus transmission to avoid adverse outcomes (Loayza-Pennings, 2020).

In the academic literature, there are diverse perspectives among economists regarding the comparison of the economic effects of the Great Recession and the COVID-19 pandemic. Some scholars (Gueriri, Lorenzoni et al., 2020: 23) argue that comparing the crisis induced by COVID-19 with previous global crises, particularly the 2008 financial crisis, is not feasible. They highlight that, in the case of the pandemic, economies faced challenges necessitating more intricate solutions, which had not been previously employed to mitigate the negative impacts of such crises. Nonetheless, a comparative analysis of these two crises reveals certain similarities and distinctions in their effects on the global economy (OECD, 2020:7).

Similarities:

- Crises manifest in waves, with issues spilling over from one sector to another within economies, as well as from one economy to another.
- There is an employment crisis requiring support for unemployed individuals.
- The crisis leaves negative effects on a global scale.
- Governments face the challenge of rapid response across various sectors of the economy.
- Governments must consider both current and future planning.

Differences:

- Economic activity declines, but not due to a loss of confidence.
- The crisis affects a broader range of economic sectors simultaneously.
- Governments allocate financial resources to support the healthcare system and aid packages for lost jobs.
- Limited flexibility (informal labor) imposes additional costs.
- There are issues related to medical equipment availability.
- Contactless service provision is developing as key service sectors (tourism, travel, and entertainment) are closed.
- The crisis disproportionately impacts the small and medium-sized enterprises (SME) sector.
- Disruptions in production lead to increased pressure on supply chains.

3.2. Foreign exchange market in Serbia

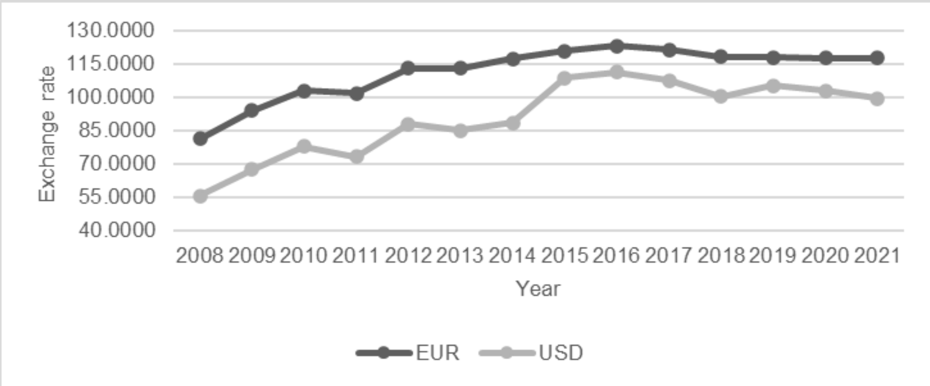
In the subsequent section of this paper, a comprehensive analysis will be conducted on the movements of exchange rates in Serbia, Romania, and Hungary during the periods characterized by the Great Financial Crisis and the COVID-19 pandemic. This analysis will investigate the impact of these crises on the stability of currencies within these economies, as well as the measures undertaken by national and monetary authorities to uphold economic stability and mitigate the adverse effects of the crises.

Graph 1 illustrates the grouped values of the EUR/RSD and USD/RSD exchange rates from 2008 to 2021. The data indicate that the global economic crisis exerted a more pronounced influence on the fluctuations of the EUR/RSD and USD/RSD exchange rates in comparison to the COVID-19 pandemic, as evidenced by the more substantial oscillations in exchange rate strength observed during the years of the crisis.

A detailed examination of the data from 2008, relative to the end of 2007, reveals a depreciation of the dinar against the euro by 1.85%, while an appreciation of 4.5% was noted against the dollar. This phenomenon can be attributed to broader global economic trends that impacted exchange rates during that period. The most severe ramifications of the crisis were felt in 2009, when the dinar depreciated against the euro by 15.36% and against the dollar by as much as 21%. This dramatic shift underscores the detrimental effects of the crisis on the stability of the domestic currency, a conclusion corroborated by existing literature that analyzes the macroeconomic consequences of such crises.

Moreover, in 2010, the dinar experienced further depreciation, weakening by 9.68% against the euro and by 15.46% against the dollar in comparison to the preceding year. The analysis of the dinar's exchange rate dynamics relative to the euro and dollar throughout the global economic crisis reveals significant changes resulting from the intricate interactions between global economic factors and local economic policies. These changes had profound implications for economic stability and development in Serbia, warranting further scrutiny and investigation (McCulloch & Grover, 2010). Additionally, statistical data regarding exchange rate movements indicate a persistent negative trend, attributable not only to the global economic crisis but also to various internal economic factors. Within the context of the crisis period from 2008 to 2010, the EUR/RSD exchange rate depreciated by 26.53%, while the USD/RSD exchange rate exhibited a depreciation of 39.71%.

Graph 1. Size of the enterprises that grew and used MC services



Source: Author's representation based on data from the NBS website

Significant fluctuations in the exchange rate of the dinar also occurred during the COVID-19 pandemic. Research conducted by Pasiouras and Daglis (2020) indicates that exchange rates were susceptible to substantial changes due to heightened volatility in global financial markets. Throughout the COVID-19 pandemic, the Serbian economy experienced a decline in foreign direct investments, which destabilized the exchange rate (Tomić, Antonijević, & Pejović, 2021; Khan, 2024). This situation resulted in a reduction of foreign exchange liquidity and a withdrawal of foreign assets from the financial system, exacerbating the economic challenges (Petrović & Vesić, 2015). Furthermore, these changes were intensified by fears of economic recession, leading to capital outflows from the country (Fasanya et al., 2020).

In 2019, the exchange rate of the dinar against the euro exhibited the most significant fluctuations, strengthening from January to December, after which it stabilized. As illustrated in Graph 1, in the first half of 2019, the exchange rate appreciated by approximately 0.29%. In the second half of the year, the exchange rate continued to strengthen, appreciating by an additional 0.34% (from 118.39 RSD/EUR in January to 117.54 RSD/EUR by the end of the year).

The dinar's exchange rate against the dollar demonstrated constant fluctuations. In the first quarter of 2019, the dinar depreciated by 0.44% compared to the end of 2018. In the second quarter, there was a further depreciation of 0.09%, with the most pronounced decline occurring in the third quarter, where the dinar weakened by 2.22% against the dollar. The dinar was strongest in January, valued at 103.6339 RSD/USD, but by the end of December 2019, it had depreciated by 2.08%. This depreciation continued until May 2020. Over the entire year, the dinar recorded an overall growth of 8.82%, moving from an exchange rate of 105.95 RSD/USD in January to 96.60 RSD/USD in December. During 2021, the dinar consistently weakened from quarter to quarter, concluding the year with a total decline of 7.66% against the dollar. From January 2019 to December 2021, during the crisis triggered by the COVID-19 pandemic, the dinar depreciated by 0.37% against the dollar.

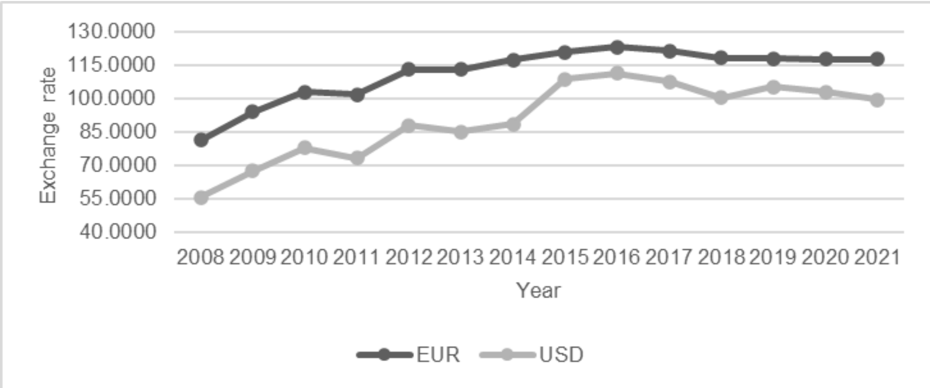
In response to fluctuations and the need for stabilization, the NBS intervened in the international foreign exchange market during 2019 by purchasing €3.1 billion and selling €405 million to mitigate short-term exchange rate volatility (NBS, 2020). In 2020, depreciation pressures intensified due to the COVID-19 pandemic; however, the National Bank of Serbia, through timely interventions, maintained the stability of the foreign exchange market. During 2020, the National Bank of Serbia intervened by purchasing €500 million and selling €1.95 billion to alleviate short-term fluctuations in the dinar's exchange rate (NBS, 2021). In accordance with the Monetary Policy Program for 2021, the National Bank of Serbia implemented a managed floating exchange rate regime, consistent with strategies employed during previous significant global economic crises. The execution of a managed floating exchange rate implies the potential for interventions in the foreign exchange market aimed at mitigating daily fluctuations in the dinar's exchange rate, while preserving price levels and the amount of foreign exchange reserves.

3.3. Foreign exchange market in Romania

Graph 2 presents the aggregated values of annual exchange rates for EUR/RON and USD/RON in Romania from 2008 to 2021. During the observed periods of both crises, the analysis of the graph indicates that the global economic crisis significantly affected the depreciation of the Romanian leu, particularly during the first two years of the crisis. Specifically, the leu depreciated against the euro by 10.61% compared to 2007, while a further decline of 15.06% was recorded in 2009. From that point until the end of 2021, the currency experienced a continuous decline in value.

Regarding the exchange rate of the leu against the dollar, depreciation was noted from 2008 to 2010, mirroring trends observed in the Republic of Serbia. In Romania, the national currency notably weakened against the dollar in 2009, with a decline of 21.06%, which is almost equivalent to the depreciation experienced by the dinar in Serbia during the same period.

Graph 2. Exchange rates EUR/RSD and USD/RSD



Source: Author's representation based on data from the NBS website

The effects of the COVID-19 pandemic in Romania manifested through increased volatility in the exchange rate of the leu. Research indicates that the Romanian economy experienced pressures similar to those faced by Serbia, as the restrictions imposed during the pandemic led to a decline in economic activity and a corresponding reduction in demand for the Romanian leu in the international market (Predojević-Despić, 2021). Furthermore, the economic recovery of Romania post-crisis depended significantly on the stabilization of the exchange rate, a point emphasized in analyses regarding the impact of COVID-19 on the economy (Tomić et al., 2021). Authors Hung and Vo (2023) note that the Romanian economy was adversely affected by decreased demand for the leu in international markets, resulting in its depreciation. A study conducted by Babshetti et al. (2021) demonstrated that exchange rates in Romania were influenced by global economic shifts induced by the pandemic, as well as by domestic economic factors. This situation was further exacerbated by a decline in tourism, a significant source of foreign exchange earnings for the country.

Data presented in Graph 2 indicate that the COVID-19 pandemic adversely affected the depreciation of the leu during all three observed years of the crisis. In the first and second years, the leu depreciated against the euro by approximately 2% compared to the previous years, while in 2021, it weakened against the euro by 1.72%. Overall, the currency depreciated by 3.69% during the duration of the COVID-19 pandemic. It can be concluded that the COVID-19 pandemic negatively influenced the exchange rate of the leu in all three observed years of the crisis. In terms of the leu's exchange rate against the dollar, appreciation was recorded from 2019 to 2021.

Like the National Bank of Serbia (NBS), during the COVID-19 pandemic, the National Bank of Romania (NBR) implemented a series of measures aimed at stabilizing the foreign exchange market and preserving macroeconomic stability:

- The first measure involved direct interventions in the foreign exchange market to mitigate fluctuations in the national currency's exchange rate against the euro and dollar. These interventions included the buying and selling of foreign currencies, with the aim of stabilizing the exchange rate and maintaining a favorable investment environment.
- The NBR reduced the reference interest rate to stimulate economic activity by lowering borrowing costs. This action facilitated access to cheaper capital, thereby attempting to alleviate the negative economic impacts of the pandemic and preserve the investment climate.
- Additionally, the NBR implemented liquidity measures, providing extra funds to the banking sector through various liquidity instruments. These measures were designed to ensure adequate liquidity in the financial system and to facilitate the smooth functioning of the foreign exchange market.
- The NBR continuously monitored the exchange rate, inflation, and other key economic indicators, adjusting its monetary policy in accordance with market changes, all with the goal of minimizing the adverse economic consequences of the pandemic and maintaining the stability of the national currency.

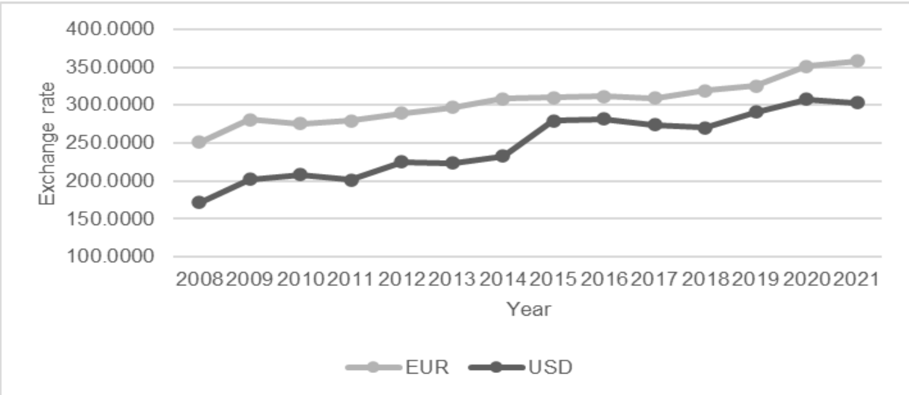
3.4. Foreign exchange market in Hungary

Hungary also experienced the crisis, and its national currency underwent significant fluctuations. Analyses indicate that economic indicators, such as inflation and interest rates, had a direct impact on the exchange rate of the forint (Dineri & Çütçü, 2020). Graph 3 presents the annual exchange rates of EUR/HUF and USD/HUF from 2008 to 2021 in Hungary.

From 2008 to 2010, the Hungarian forint exhibited considerable volatility against the euro due to the global financial crisis. In 2008, the forint depreciated by approximately 10% against the euro, a direct consequence of declining confidence in global financial markets and increased demand for safe-haven currencies such as the euro. Throughout 2009, the forint continued to weaken, albeit at a more moderate rate of around 5%, indicating the lasting effects of the crisis and gradual stabilization due to interventions by the central bank. By 2010, the forint began to show signs of stabilization against the euro, characterized by reduced exchange rate volatility, which suggested partial effectiveness of monetary policy measures; however, the currency remained below pre-crisis levels.

The movement of the Hungarian forint against the U.S. dollar during the same period displayed a similar pattern but with more pronounced oscillations due to fluctuations in the dollar's value in global markets. In 2008, the forint depreciated by approximately 12% against the dollar, driven by the strengthening of the dollar as a safe-haven currency during the crisis, compounded by deteriorating liquidity in the domestic market. In 2009, while the forint continued to weaken, the depreciation rate was lower, at around 6%, reflecting gradual stabilization amidst a high degree of uncertainty. By 2010, the forint demonstrated moderate improvement and reduced volatility against the dollar, indicating a partial restoration of investor confidence and stabilization of global markets; however, the currency remained significantly weaker compared to pre-crisis levels.

Graph 3. Exchange rates EUR/HUF and USD/HUF



Source: Author's representation based on data from the MNB website

The COVID-19 pandemic had a significant impact on the depreciation of the forint against the euro over the three observed years. Specifically, in 2019, the forint depreciated by 2.03% compared to 2018. In 2020, it weakened by approximately 8% relative to 2019, while in 2021, an additional depreciation of 2.09% was recorded. Based on these data, it can be concluded that the most pronounced negative effects of the COVID-19 pandemic were felt during 2020.

In terms of the forint's exchange rate against the dollar, the currency depreciated from 2019 to 2021, contrasting with the experiences of Serbia and Romania, where their currencies strengthened against the dollar. In Hungary, the forint experienced its most significant weakening against the dollar in 2019, with a depreciation of 7.55%, while in Serbia, the dinar depreciated by approximately 5% during the same period. In the subsequent years of the pandemic, the forint further depreciated by 4.35% from the onset of the pandemic to the end of 2021.

During the pandemic, the Hungarian government and the central bank implemented various measures aimed at stabilizing the economy. These measures were designed to alleviate pressure on the forint and ensure stability during turbulent economic times. In the context of the crisis caused by the COVID-19 pandemic, the Magyar Nemzeti Bank (MNB) instituted a series of measures to stabilize the foreign exchange market and maintain liquidity within the financial system:

- The reduction of the reference interest rate, which was a response to the crisis, aimed to facilitate access to credit and lower borrowing costs for businesses and households (MNB, 2020).
- The MNB also conducted interventions in the foreign exchange market, buying and selling foreign currencies to preserve the stability of the Hungarian forint. These interventions were crucial in preventing excessive fluctuations amid high volatility.

4. Conclusion

The pandemic caused by the COVID-19 virus represents a global issue with potentially more intense negative effects on world economies compared to the Great Recession. The authors emphasize that a key distinction between these two crises lies in their underlying causes. While the financial crisis was exclusively a financial crisis stemming from the subprime mortgage sector in the United States, which quickly spilled over into the real economy, COVID-19 simultaneously impacted the global economy, slowing down various sectors and leading to the "lockdowns" of developed countries within a short timeframe.

From the perspective of the foreign exchange market, both crises resulted in significant fluctuations in exchange rates across the analyzed countries. A crucial similarity between COVID-19 and the Great Recession is the abandonment of neoliberal postulates in favor of state interventions. In the context of the global economic crisis, the primary measure for rescuing the financial system involved the purchase of distressed bonds, whereas during the pandemic, there was considerable support from relevant institutions for the real sector, aimed at preserving economic activity and stabilizing exchange rates. This support encompasses monetary measures directed at stimulating demand and maintaining market liquidity, which are essential for mitigating the negative effects of the pandemic on the foreign exchange market and the economy. In this context, the exchange rate is directly influenced by the central bank's policies. The appropriate choice of exchange rate is crucial due to its impact on foreign trade, financing, addressing balance of payments imbalances, and guiding domestic economic policy. Without a stable exchange rate policy, there can be no internal or external trade stability.

The authors analyzed data pertaining to the movements of the exchange rate in Serbia, Romania, and Hungary against the euro and the US dollar from 2008 to 2021, with a particular focus on the intervals related to the Great Recession and the crisis triggered by the COVID-19 pandemic. When comparing the effects of the global crisis on countries in the region, it can be concluded that the negative effects of the Great Recession were most pronounced in Serbia's exchange rate movements compared to Romania and Hungary. It can be concluded that during the global economic crisis:

- In Serbia, the dinar weakened year by year, depreciating by 26.53% during the recession, while against the dollar, it weakened by nearly 40%.
- In Romania, the leu depreciated against the euro by 14.31%, while the dinar depreciated by 26.53%. Both Romania and Serbia experienced a decline in their national currencies against the dollar, with depreciations of 26% and 40%, respectively.
- The Hungarian forint weakened against the euro by 9.62%, while the dinar depreciated by 26.53%. Against the dollar, the forint depreciated by 21.16%, whereas the dinar depreciated by nearly 40%.

In contrast to the Great Recession, the crisis triggered by the COVID-19 pandemic did not have as severe consequences on exchange rate movements. Among the observed countries, Hungary experienced the most significant negative effects of the crisis, as it depreciated against both the euro and the dollar. In Serbia, however, compared to data from other countries in the region during the pandemic, there was an appreciation of the currency against both the euro and the dollar.

References

Babshetti, V., Singh, J. E., & Yaragol, P. B. (2021). The impact of COVID-19 on the socio-economic indicators of selected Asian countries. *India Quarterly: A Journal of International Affairs*, 78(1), 28-46. https://doi.org/10.1177/09749284211068162

Dineri, E. & Çütçü, İ. (2020). *The COVID-19 process and the exchange rate relation: An application on Turkey*. https://doi.org/10.21203/rs.3.rs-49026/v1
Fasanya, I. O., Oyewole, O. J., Adekoya, O. B., & Mensah, J. O. (2020). Dynamic spillovers and connectedness between the COVID-19 pandemic and global foreign exchange markets. *Economic Research*, 34(1), 2059-2084. https://doi.org/10.1080/1331677x.2020.1860796
Goldstein, I., Koijen, R. S. J., & Mueller, H. M. (2021). COVID-19 and its impact on financial markets and the real economy. *The Review of Financial Studies*, 34(11), 5135-5148. https://doi.org/10.1093/rfs/hhab085
Guerrieri, V., Lorenzoni, G., Straub, L., & Werning, I. (2020). *Macroeconomic implications of COVID-19: Can negative supply shocks cause demand shortages?* NBER Working Paper No. 26918, 1-37. https://www.nber.org/papers/w26918
Handoyo, R. D. (2020). Editorial: Impact of COVID-19 on trade, FDI, real exchange rate, and the era of digitalization: Brief review of the global economy during the pandemic. *Journal of Developing Economies*, 5(2), 86. https://doi.org/10.20473/jde.v5i2.23641
Hung, N. T., & Vo, X. V. (2023). Asymmetric impact of the COVID-19 pandemic on foreign exchange markets: Evidence from an extreme quantile approach. *Economics and Business Letters*, 12(1), 20-32. https://doi.org/10.17811/ebl.12.1.2023.20-32
Jamal, A. & Bhat, M. A. (2022). COVID-19 pandemic and exchange rate movements: Evidence from six major COVID-19 hotspots. *Future Business Journal*, 8(1). https://doi.org/10.1186/s43093-022-00126-8
Khan, M. N. (2024). Impact of COVID-19 crisis on volatility spillovers across global financial markets: Evidence from asymmetric GARCH models. *Journal of Economic Integration*, 39(2), 373-393. https://doi.org/10.11130/jei.2024005
Kovačević, R. (2021). Serbia's foreign exchange reserve adequacy and the factors influencing their accumulation. *Economic Horizon*, 23(1), 33-53. https://doi.org/10.5937/ekonhor2101033k
Loayza, N. V., & Pennings, S. (2020). *Macroeconomic policy in the time of COVID-19: A primer for developing countries.* World Bank Group. Retrieved from: https://openknowledge.worldbank.org/bitstream/handle/10986/33540/Macroeconomic-Policy-in-the-Time-of-COVID-19-A-Primer-for-Developing-Countries.pdf?sequence=1&isAllowed=y
Magyar Nemzeti Bank (MNB). (2008-2022). *Financial Stability Report*
Magyar Nemzeti Bank (MNB). (2008-2022). *Inflation Report*
Magyar Nemzeti Bank (MNB). (2008-2022). *Monetary policy report*
Magyar Nemzeti Bank (MNB). (2008-2022). *Official Daily Exchange Rates*
Martin, V. (2018). Presentation of the foreign exchange market in Serbia. *Banking Journal*, 47(4), 54-73. https://doi.org/10.5937/bankarstvo1803054m
McCulloch, N., & Grover, A. (2010). *Estimating the national impact of the financial crisis in Indonesia by combining a rapid qualitative study with nationally representative surveys*. IDS Working Papers, 2010(346), 01-39. https://doi.org/10.1111/j.2040-0209.2010.00346_2.x
National bank of Romania (2008-2022). *Annual Report*
National bank of Romania (2008-2022). *Financial Stability Report*
National bank of Romania (2008-2022). *Inflation Report*

National bank of Romania (2008-2022). *Official Daily Exchange Rates*
National bank of Serbia. (2008-2022). *Annual report on monetary policy*
National bank of Serbia. (2008-2022). *Financial Market – Foreign Exchange Hedging*
National bank of Serbia. (2008-2022). *Interbank Foreign Exchange Market*
National bank of Serbia. (2008-2022). *Official Daily Exchange Rates*

Pasiouras, A., & Daglis, T. (2020). *The dollar exchange rates in the COVID-19 era: Evidence from five currencies. European Research Studies* Journal, XXIII (Special Issue 2), 352-361. https://doi.org/10.35808/ersj/1828

Pažun, B. (2014). Equilibrium exchange rate assessment in Serbia using the IMF external sustainability approach. *Megatrend Review,* 11(2), 117-132. https://doi.org/10.5937/megrev1402117p

Petrović, P., & Vesić, D. (2015). Impact of global economic crisis on Serbia's economic development. *International Problems*, 67(1), 106-127. https://doi.org/10.2298/medjp1501106p

Paunović, S., Dimić, M., & Arsenijević, O. (2019). Analysis of socio-economic trends in Serbia under crisis conditions. *Baština Journal*, 48, 153-170. https://scindeks-clanci.ceon.rs/data/pdf/0353-9008/2019/0353-90081948153P.pdf

Predojević-Despić, J. (2021). Labour migration, COVID-19 pandemic, and the Western Balkans: Measures to encourage temporary, circular, and return migration. *Demografija Journal*, 18, 71-92. https://doi.org/10.5937/demografija2118071p

Spatt, C. S. (2020). A tale of two crises: The 2008 mortgage meltdown and the 2020 COVID-19 crisis. *The Review of Asset Pricing Studies*, 10(4), 759-790. https://doi.org/10.1093/rapstu/raaa019

Tang, C. & Aruga, K. (2021). Effects of the 2008 financial crisis and COVID-19 pandemic on the dynamic relationship between the Chinese and international fossil fuel markets. *Journal of Risk and Financial Management*, 14(5), 207. https://doi.org/10.3390/jrfm14050207

Tomić, M., Antonijević, M., & Pejović, B. (2021). *The impact of the COVID-19 pandemic on FDI movements – experiences from Serbia*. *Economic ideas and practice*, 42, 47-72. https://doi.org/10.54318/eip.2021.mt.296

Trošić, S. & Jović, A. (2020). *Economic consequences of COVID-19 and support measures for the economy of the Republic of Serbia*. In: Conference Proceedings: Infectious Diseases as a Global Security Challenge – COVID-19 Pandemic: Reality and Consequences, 94-118. Retrieved from: http://repozitorijum.diplomacy.bg.ac.rs/693/1/ZBORNIK-Zaranzne-bolesti-kao-globalni-bezbednosni-izazov-pandemija-COVID-19.-stvarnost-i-posledice-95-119.pdf